DOCUMENT RESUME

ED 083 291 TM 003 256

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TITLE Selection of Exemplary Educational Products. Panel Review of Products, 1972-1973.
INSTITUTION Educational Testing Service, Princeton, N.J.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
REPORT NO PR-73-11
PUB DATE Apr 73
CONTRACT OEC-72-4450
NOTE 135p.

EDRS PRICE MF-$0.65 HC-$6.58
DESCRIPTORS Comparative Analysis; *Evaluation Criteria; *Evaluation Techniques; *Information Dissemination; *Instructional Materials; Media Selection; Resource Guides; *Summative Evaluation
IDENTIFIERS *Panel Review of Products; PROP

ABSTRACT

The 1972-1973 Panel Review of Products (PROP) was conducted to gather descriptive and evaluative information needed to help in developing dissemination plans for selected educational products. The PROP was conducted on a pool of 90 educational products. This volume describes in detail the procedures followed in product review by the panel. The sections of the volume are: (1) Perspectives on Panel Review of Educational Products; (2) Appointment of the 1972-1973 Panel for Review of Products; (3) Composition of the Initital Pool for Product Review; (4) Collection and Organization of Information on Products in the Pool; (5) Development and Refinement of Selection Criteria; (6) Panel Procedures in the Initial Stages of Product Review; (7) Panel Procedures in the Final Stages of Product Selection; (8) Summary of Panel Selections and Product-Related Actions; and (9) Recommendations for Future Dissemination Focused Evaluation. Appendixes provide: Official Product Pool; Product Classification Categories; Classified Tabulation of Products; Guidelines for Preparing Product Evaluation Precis; Dossier Cover Sheet; PROP Action Form; and Request for Precis Review and Approval. (DB)

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PR-73-11

Panel Review of Products

PROP

1972-1973

For the National Institute of Education

SELECTION OF EXEMPLARY EDUCATIONAL PRODUCTS

Wesley W. Walton
Barbara F. Esser
Marion G. Epstein
Elizabeth H. Margosches
William B. Schrader

April 1973

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ETS
EDUCATIONAL TESTING SERVICE
PRINCETON, NEW JERSEY

ED 083291

PANEL REVIEW OF PRODUCTS

SELECTION OF EXEMPLARY EDUCATIONAL PRODUCTS 1972-1973

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TM 003 256

A Report on the Development of Product Selection Criteria and of their Application in Nominating Educational Products for Intensive Study and for Nationwide Dissemination and Installation in the Schools

For the National Institute of Education
United States Department of Health, Education, and Welfare

Educational Testing Service
Princeton, New Jersey
April 1973

Panel Members for the 1972-1973 Panel Review of Products

Robert Wesley Blanchard	Superintendent of Schools, Portland, Oregon
Joan Bollenbacher	Coordinator, Evaluation and Accountability Branch, Cincinnati Public Schools
Edythe J. Gaines	Community Superintendent, Community School District 12, Bronx, New York
Kenneth K. Komoski	President and Director, Educational Products Information Exchange Institute
David Krathwohl	Dean of the School of Education, Syracuse University
Arthur Allen Lumsdaine	Professor of Psychology and Education and Chairman of the Psychology Department, University of Washington
Ruth Mancuso	Member, N. J. State Board of Education - Chairman, Committee on Evaluation Director, Audiovisual Aids Commission, Camden and Gloucester Counties, New Jersey
Michael Scriven	Professor, Philosophy Department, University of California at Berkeley
Beverly Trollman	English and Remedial Reading Teacher, Manhattan Junior High School, Manhattan, Kansas
Bernard Watson	Professor and Chairman of Urban Education, Temple University

The tasks described in this report were performed by Educational Testing Service (ETS) pursuant to Contract Number OEC-72-4450 with the United States Department of Health, Education, and Welfare, Office of Education (OE), dated May 26, 1972. The activities of the initiating agency in OE, the National Center for Educational Communication, became part of the National Institute of Education after its inception in the summer of 1972.

Abstract

The 1972-1973 Panel Review of Products (PROP) was conducted for the National Institute of Education (NIE) to gather descriptive and evaluative information needed to help in developing dissemination plans for selected educational products. Tasks included organization of a nationally representative review Panel, composition of an initial pool of developer-nominated educational products on which verification and cost data were available, completion of product descriptions highlighting information of significance for comparative evaluation purposes, development of a criterion base for product review and analysis, and selection by the Panel of a limited pool of products to be subjected to further study in the context of the dissemination strategies of NIE. Specifically, the PROP mission was to select from an initial pool of 90 educational products a smaller pool of 15 to 35 products on which dissemination recommendations could be made and from which NIE might choose products for its dissemination programs as they evolve.

PROP's pool at one point contained 190 products from some 50 institutions engaged in product development. Preliminary screening decisions by NIE narrowed the field so that 90 products from 33 institutions were designated as the pool to be exposed to PROP evaluation procedures. Of that pool, 23 products representing four research and development centers, four regional laboratories, and six other institutions received favorable PROP Panel votes. These products became the subjects of detailed dissemination recommendations made by the Panel to NIE. An additional 25 products from four centers, five laboratories, and six other institutions were voted by the Panel to have sufficient promise to be categorized as "hold for subsequent review." On the 42 remaining products, the Panel took no positive action for a variety of reasons.

This year's review Panel of ten members, of whom half had served with the PEP Panel (ETS, 1971) and half were newly appointed, met twice within a 5-week span. All members were present at all sessions. Staff support

was provided by Educational Testing Service (ETS). The advance preparations and follow-up activities required an ETS project team of five--who share authorship of this report--as well as 33 other members of the professional staff, drawn from three divisions, to communicate with principal investigators and to carry the burden of individual product review and analysis.

Although the criterion base for Panel review of products in PROP was quite similar to the one used in PEP 1971--goals, effectiveness, adoptability, and costs--the decision rules for product selection were dramatically different. In thumbnail sketch, the procedures were as follows: after criteria were applied in the study of a given product and resulting overall individual judgments were made on all of the products in the initial pool, the Panel then moved to plenary consideration of products that appeared likely to receive favorable ratings. In the case of each such product, several panelists were in agreement that it was at least in the "3 - Will accept" category on a five-level rating scale used to summarize overall individual ratings. Thorough discussions were held on each product, followed by a Panel vote. A product at this point could be voted "recommended" or "not recommended." The procedural difference this year was in the multiple basis upon which a product could receive a "recommended" vote, essentially in any of four variations:

- Definitely recommended for dissemination
- Recommended for dissemination if an identified condition is satisfied
- Recommended for dissemination action concurrent with other activities indicated
- Recommended for dissemination action following other activities indicated.

The latitude thus afforded in the decision-making process allowed Panel dissemination recommendations to be made with respect to a number of promising educational products where some lack in development or evaluation identified by the Panel would otherwise have prohibited definitive actions from having been taken. As a consequence, the PROP Panel had the opportunity concurrently to select exemplary products and to advise on further development and evaluation steps judged to be needed in the course of moving products toward widespread use. This appears to be a marked advancement in the state of the art of dissemination-oriented evaluation.

Foreword

This is the second comparative review of educational products that has been conducted for the purpose of advancing the dissemination-diffusion programs of the National Center for Educational Communication (NCEC) and represents one of the first operational activities of the National Institute of Education (NIE). The activity, designated the Panel Review of Products (PROP), moved into its active stage during the period when the enabling legislation for NIE was before the Congress. Monitoring of the project was moved from The United States Office of Education (OE) to NIE during the first month of NIE operation. As a consequence, the policies that served to guide the tasks pursued in the accomplishment of the mission, especially in the early months, were evolved on an ad hoc basis as circumstances required, sometimes on a day-to-day basis. During the period of NIE's gestation, the intensity and effectiveness of cooperation by OE and NIE staff and by product developers and their institutions in the field were exemplary, as were the flexibility, energy levels, and quality of work of PROP panelists and ETS staff members.

As with the Project to Evaluate Products (PEP) a year earlier, PROP was devoted to the comparative evaluation of educational products well on the way in their respective development cycles and to preparation of substantive recommendations related to the dissemination of the more exemplary products among them. In this frame of reference, educational products are things OE funds have "bought"--the outcomes of educational research and development accomplished in large measure as OE-funded activities. In addition to the programs monitored in pre-NIE days by the National Center for Educational Research and Development (NCERD)--the sole source of products for the 1970-1971 PEP pool, PROP also drew products for the 1972-1973 pool from programs supported by OE's Bureau for the Education of the Handicapped (BEH). It is to be hoped that the next comparative evaluation done to assist in disseminating improved

educational practices will cast an even larger net to capture in the pool for panel review another year developmental products coming out of programs sponsored by the National Science Foundation and other foundations, as well as by other government and private agencies serving education.

It is important to note that the subjects of PROP evaluation are products, not the programs or projects out of which they were born. The information base, the criteria applied, and the judgments made have all been product-oriented. The rules of the game for PROP would apply, in a sense, reasonably well in an educational consumers' movement, looking hardest as the rules do at the question, "What products are most worthy of widest use in our schools?" The caveat here is that although a criterion base served to anchor the PROP evaluation process, and thus tempered the selections, the criteria used were, after all, compatible with the dissemination-diffusion interests of NIE--and thus were quite explicit. To use this evaluation paradigm for other purposes would require subscribing to a similar criterion formulation--goal-bound, heavily dependent on effectiveness measures, and centrally concerned with both dollar and non-dollar costs.

It seems reasonable to expect that the 1972-1973 PROP activity has moved the state of the art of product evaluation to a level at which developers will be able to do more self-selection of products appropriate for entry into subsequent PROP-type pools. Certainly, many of the products entered this time should not be entered again. One outcome that, it is to be hoped, will be stimulated by this report is a needed set of guidelines that will assist developers in differentiating products that would be likely to benefit from centralized dissemination strategies from products that are better served through dissemination carried out on a decentralized basis, as, for example, an integrated research-development-evaluation-diffusion model suggested by a systems approach to educational research and development. The suggested guidelines, to be effective, would invite entry into a PROP pool of only those products for which an NIE dissemination

strategy had been formulated. In short, products for nomination to the next PROP pool should be seen by their developers as being best served by NIE dissemination and as being of sufficient current strength to suggest such action.

Wesley W. Walton

Educational Testing Service
Princeton, New Jersey

April 1973

Introduction

The Panel Review of Products (PROP) for 1972-1973 was conducted on a pool of 90 educational products. For 23, the ten-member Panel submitted dissemination-related recommendations; an additional 25 products were nominated for review in another year. For the 42 remaining, there were neither dissemination recommendations nor suggestions concerning subsequent review. The present volume describes in detail the procedures followed in product review by the Panel, while a companion volume gives a summary of Panel recommendations on and a nontechnical description of each of the 23 exemplary products which received dissemination-related recommendations.

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Perspectives on Panel Review of Educational Products

The 1972-1973 Panel Review of Products (PROP) was a natural outgrowth of an earlier effort, the Product Evaluation Project (PEP) carried out by Educational Testing Service (ETS) in 1971 for the National Center for Educational Communication (NCEC) of the United States Office of Education (USOE). The 1971 project represented a new type of endeavor, directed at identifying outstanding educational products and focusing their dissemination in such a way that they could be quickly and effectively installed in the nation's schools. The discussion of PEP that follows emphasizes the similarities between PEP and PROP, while calling specific attention to those facets in which the two projects differed.

The field of products from which the PEP panel nominated outstanding examples came from the regional educational laboratories, research and development centers, and a number of universities and was limited to entries which had been developed under the auspices of the National Center for Educational Research and Development (NCERD) in the USOE. After various criteria, principally the availability of adequate validation data, had been applied to an initial pool of 70 products, some 51 products became the subjects of panel selection deliberations. PROP, by contrast, worked from a larger field of product nominators, including, in addition to the sources utilized for PEP, such sources as the Bureau for the Education of the Handicapped and the list of recommended products which had been generated in the so-called Impact Study conducted by the American Institutes for Research in 1971. The PROP pool in the first months of the National Institute of Education (NIE) gradually built up to a much larger number of products--almost 200--but was finally reduced by various administrative decisions to a field of 90, from which the Panel was asked to select some 15 to 35 to be recommended for dissemination.

For PEP a panel of eight appraisers worked to select exemplary educational products. They included curriculum specialists, evaluators, school administrators, teachers of teachers, measurement specialists, and critics

of current educational research and development efforts. For PROP the number of panelists was increased to ten, in part to accommodate the much larger number of products to be reviewed, but mainly in order to include two additional viewpoints, that of a classroom teacher and that of a research person in a large-city school system.

The PEP panel met three times, whereas the PROP panelists completed their product review in two, albeit harried, two-day meetings. This difference can be accounted for in large part by the fact that PEP was a pioneering effort and a large proportion of the panel's meeting time was necessarily devoted to the arduous task of working out in great detail the criteria and mechanisms for product review and selection. Because of the firm base established by the PEP panel in this aspect of the project and because of the helpful suggestions provided to future panels for improvements, the PROP Panel, relying in substantial measure on ETS staff support, was able to proceed most expeditiously through this part of its work and to move almost immediately (during the first morning of its first meeting) to the actual task of product appraisal.

Both the PEP and the PROP panels found it expedient to split into two subpanels in order to accomplish a substantial portion of their work. In both cases, however, concerted efforts were made to ensure that the two subpanels were operating by the same groundrules and in each instance all final decisions were made in plenary session, so that no panelist was ever deprived of the opportunity to plead either for or against any given product.

The ultimate mission of the two panels did differ somewhat, in that PEP's task was to actually nominate a small group of recommended "finalists" from among its total product pool. The PROP goal, on the other hand, was to nominate a much larger group of exemplary products, from among which the NIE would be free to draw in implementing its larger policies for educational product dissemination. In actual fact, the PEP panel recommended nine products for dissemination focus. Of these, five were designated as being first priority selections and four were marked as second priority. PROP,

by contrast, nominated a much larger number, 15, for actual dissemination funding, with an additional eight products conditionally recommended. That is to say, the Panel urged that funds be expended for such purposes as additional field trials, independent evaluations, or even further development in the belief that these eight products were of sufficient promise as to be likely to merit dissemination recommendations after certain deficiences had been remedied. The PEP panel, in addition, selected from among its final pool of 51 products nine which they recommended for deferral to 1972, largely because adequate evaluation and validation data were not yet fully available. A second group of nine was also suggested for deferral, on a somewhat less optimistic and lower-priority basis. The PROP Panel selected, from its pool of 90 products, 25 which it labeled "Hold" in the belief that they were of sufficient promise to merit another look by some future panel after such things as additional information, validity data, and final reports from developers became available.

Both PEP and PROP functioned in much the same way in that they were able to develop and work with selection criteria that could be applied across an eclectic assemblage of products applicable to a variety of educational levels--from preschool to adult, intended for diverse socio-cultural populations, covering a broad range of academic fields and cross-disciplines, intended to serve a broad array of educational purposes, and utilizing the gamut of hardware and software techniques.

Both the PEP and the PROP panelists saw it as a vital part of their mission to make recommendations for future product review panels which would enhance their operations and make them more efficient. The PEP panel did its work so effectively that the PROP group were enabled to, as it were, "stand on the shoulders of giants." Their entire operation was made smoother and swifter in large part as a result of the work laid out by PEP and its suggestions for future procedures. The PROP Panel, in turn, felt an obligation to analyze its experience in such a way that similar activities in the future would be more effective. They enlarged the scope of their recommendations, however, to include fundamental policy considerations. These, if implemented, should enable the government to expend its available dissemination funds wisely and well.

Appointment of the
1972-1973 Panel for Review of Products

Introduction. Acceptance of responsibility for key decisions by a top-flight group of devoted although disinterested individuals representative of change agents, curriculum planners, and materials users is critical to the success of a project such as the Panel Review of Products. The predecessor PEP panel in 1971 had recommended an increase in panel size from eight to ten, with the two added members being a research worker from a public school system and a practicing elementary or secondary school classroom teacher. A first order of business for PROP thus became nomination and, after NIE approval, appointment of a review Panel, taking into account the 1971 Panel's recommendations.

As in 1971, the PROP Panel was to include curriculum specialists, evaluators, teacher educators, and measurement specialists. Some of those appointed were to be members of special target populations for which new products had been developed. A special effort was made to include some of the sternest critics of educational research and development in the United States and some who had participated in carrying out the programs of educational research sponsored by the United States Office of Education. By including those known to be critical, assurance of credibility for the evaluations made by the Panel would be achieved. Those who had been involved during the formative period of government-sponsored educational research and development would be able to supply judgments as to how well the products and other materials now issuing from the laboratories, centers, and universities realized the initial expectations for them.

The Panel was looked upon as the final decision-making body. Other individuals working on the project were seen as sources of staff support to make the Panel's tasks in the course of reaching decisions as efficient, effective, and pleasant as possible. The Panel's main tasks were to (1) establish the criteria for the selection of recommended products and the procedures for applying them to the process of product review and to dissemination-related decisions, (2) review and analyze all products in

the pool and specify additional information needed to make effective and discriminating judgments, (3) select and make appropriate suggestions regarding dissemination-related action on some 15 to 35 products to be recommended for focused dissemination by the NIE, and (4) designate other groupings of products and suggest possible courses of action prior to their later dissemination review.

PROP Panel, 1972-1973. It was deemed essential that the ten-member Panel appointed should provide direct representation from among the following sections:

- Curriculum and Instruction
- Teacher Training
- Evaluation
- Product Development
- School Administration
- Philosophy and History
- Urban Affairs
- Lay Criticism of the Public Schools
- Action-Oriented Educational Research
- Classroom Teaching

In attempting to cover so many fields and points of view with so few panelists, it was necessary to identify potential panelists whose credentials would, in most cases, span several of the categories sought. At the same time it was thought desirable to achieve a reasonably good geographic distribution. The Panel finally selected did, in fact, fulfill both these goals. In effect, each panelist covered several fields. The 1972-1973 Panel included four women, two members especially sensitive to minority-group problems, and one with wide experience in the publishing and distribution of educational products.

The 1971 panel had recommended some holdover from its membership to provide continuity; accordingly four of the PROP panelists were appointed from among that group, a fifth had been a consultant for the 1971 project, and five were newly appointed.

A list of the 1972-1973 PROP Panel members, together with summaries of the individual members' credentials, follows. Robert Blanchard served as the Panel's informal chairman during its plenary session.

Robert Wesley Blanchard	Superintendent of Schools, Portland, Oregon 1969-
Formerly	Superintendent of Schools, Montclair, New Jersey 1964-1969 Assistant Superintendent, South Huntington Schools, Long Island, New York 1962-1964 Assistant to the Superintendent, Greenwich Connecticut 1960-1962 High School Principal and Teacher in Maine
Other relevant experience	New Jersey Commissioner to the Education Commission of the States President-Elect, Metropolitan School Study Council Chairman, Large Cities Superintendents Executive Committee, The Council of the Great City Schools
Education	A.B. Bowdoin Ed.M. University of Maine Ed.D. Harvard University

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Joan Bollenbacher	Coordinator, Evaluation and Accountability Branch, Cincinnati Public Schools
Formerly	With the Cincinnati Public School System since 1944: Supervisor of the Testing Division 1949-1960 Director of the Division of Evaluation Services 1960-1973
Other relevant experience	National office of the National Council on Measurement in Education and the Association for Measurement and Evaluation in Guidance Member of Miami University Development Council
Education	B.S. Miami University (Ohio) M.S. University of Wisconsin Additional graduate work at Columbia University and the University of Cincinnati

Edythe J. Gaines	Community Superintendent, Community School District 12, Bronx, New York
Formerly	Director of the Learning Cooperative for the City School District of New York 1971-1972 Assistant principal and principal, Joan of Arc Junior High School, Manhattan 1960-1971 Teacher and curriculum coordinator, New York City secondary schools
Other relevant experience	Taught courses at Hunter College, New York University, and Teachers College, Columbia University Consultant to school systems in Maryland and Pennsylvania Board of Trustees, Montclair State College Board of Overseers Visiting Committee, Harvard Graduate School of Education Board of Directors, Associate Harvard Alumni Chairman, Alumni Council, Harvard Graduate School of Education Board of Advisors, Children's Television Workshop (The Electric Company)
Education	B.A. Hunter College of the City University of New York M.A. New York University Ed.D. Harvard University

Kenneth K. Komoski	President and Director, Educational Products Information Exchange Institute 1967-
Formerly	Senior Program Associate, Institute for Educational Development 1966-1967 Associate Executive Officer, Institute of Educational Technology, Teachers College, Columbia University 1964-1966 Teacher in independent schools in New Jersey and New York
Other relevant experience	Chairman, Educational Technology Forum, 1970 White House Conference on Children Consultant to President's Panel on Education Consultant to UNESCO Secretariat for use of programmed instruction in teacher education in Africa 1962-1965 Director, Programmed Instruction Institute, University of Ibadan, Nigeria Summer 1963 Director, Programmed Instruction Institute, University of Ghana, Ghana Summer 1963 1971 PEP Subcontractor
Education	B.A. Acadia University M.A. Acadia University A.B.D. Columbia University-Union Theological Seminary Joint Program in Philosophy of Religion

David R. Krathwohl	Dean, School of Education, Syracuse University 1965-
Formerly	Director, Bureau of Educational Research, Michigan State University 1963-1965 Research Coordinator and Professor, Bureau of Educational Research, Michigan State University 1955-1963 Assistant Director, Unit of Evaluation, Bureau of Educational Research, University of Illinois 1949-1955
Other relevant experience	President, American Educational Research Association 1968 Chairman, Board of Trustees, Eastern Regional Institute for Education Coauthor of Taxonomy of Educational Objectives, The Classification of Educational Goals 1971 PEP Panelist
Education	B.S. University of Chicago M.A. University of Chicago Ph.D. University of Chicago

Arthur Allen Lumsdaine	Professor of Psychology and Education and Chairman of the Psychology Department, University of Washington 1965-
Formerly	Professor of Education, University of California at Los Angeles 1960-1964 Executive Scientist, American Institutes for Research, Pittsburgh 1958-1960 Research Scientist and Laboratory Director, U.S. Air Force 1949-1958
Other relevant experience	Research adviser, American Institutes for Research Editorial consultant for journals in psychology and education Visiting scientist to UNESCO and nations abroad President, APA Division of Educational Psychology Author on learning, teaching, and programmed instruction Consultant, East-West Center, University of Hawaii
Education	B.S. University of Washington Ph.D. Stanford University

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Ruth Mancuso	Member, N.J. State Board of Education - Chairman, Committee on Evaluation Director, Audiovisual Aids Commission, Camden and Gloucester Counties, New Jersey
Formerly	President, National School Boards Association President, New Jersey State School Board Association President, Local School Board, Glassboro, New Jersey Chairman, N.J. State Committee on School Regionalization Member, N.J. State Committee on Vocational Education Public School Teacher National Assessment Advisory Panel Advisory Committee for ERIC Clearinghouse on Tests and Measurements 1971 PEP Panelist
Education	B.S. Trenton State College M.A. Columbia University

Michael Scriven	Professor, Philosophy Department, University of California at Berkeley 1966-
Formerly	Professor of History and Philosophy of Science, Indiana University 1960-1966 Fellow, Center for Advanced Study in the Behavioral Sciences 1963 Taught at Swarthmore College and University of Minnesota 1952-1960 Whitehead Fellow, Harvard Graduate School of Education 1971
Other relevant experience	Editorial boards of Encyclopedia of Philosophy, American Philosophical Quarterly, Metaphilosophy, and Contemporary Psychology and editorial consultant for Science Board of Directors, Social Science Education, Inc. 1963- Director, Evaluation of Education Materials Project, SSEC 1963-1967 Director, SSEC project on role of values in the social studies 1963-1966 Chairman, Advisory Board for Evaluation, Central Midwestern Region Educational Laboratory, Inc. Advisory Board, Social Studies Program, Minnesota Mining and Manufacturing Corporation, Project Follow-Through 1968-1969 Consultant, U.S. Office of Education 1968-1969 Evaluation Consultant, Marin School Board, Social Studies Project 1969- 1971 PEP Panelist
Education	A.B. University of Melbourne M.A. University of Melbourne Ph.D. Oxford University

Beverly Trollman	English and Remedial Reading Teacher, Manhattan Junior High School, Manhattan, Kansas
Other relevant experience	Contributing editor, "The Hutison News" Staff member, college newspaper Master's thesis, "Microteaching"
Education	B.A. Kansas State University M.A. Kansas State University Ed.M. Kansas State University Doctoral candidate--Kansas State University (in curriculum and instruction)

Bernard Watson	Professor and Chairman of Urban Education, Temple University 1970-
Formerly	Deputy Superintendent for Planning, Philadelphia, Pennsylvania School District Associate Superintendent for Innovative Programs, Philadelphia Staff associate for Midwestern administrative center at University of Chicago Teacher, Counselor, Vice-Principal, and Principal in Gary, Indiana
Other relevant experience	Local boards for Urban Coalition and Model Cities Programs Board of trustees for two private schools A variety of committees for such things as National Teacher Corps and Ford and Rockefeller Foundations Lecturer at Princeton, Yale, and University of Pennsylvania 1971 PEP Panelist
Education	B.S. Indiana University M.A. University of Illinois Ph.D. University of Chicago

Recommendations for Future Panels

Despite the diversity in its membership, the Panel was able to work in an exceptionally harmonious fashion and, in its final deliberations, achieved a remarkable degree of consensus. Rapport was quickly established at the outset, in part because of the carry-over of five members with experience from 1971. Open discussion and receptivity on the part of all panelists to viewpoints which differed from their own made it possible for the incisive perceptions of individual panelists who had special expertise to be shared fruitfully with the group.

It would be difficult to imagine a more competent, hard-working, and effective panel than the one which served PROP in 1972-1973. Since the black panelists were able to make a particularly effective and insightful contribution in pointing out product strengths and weaknesses for special populations, it would seem desirable to attempt to include still other minority group members in the future.

Two recommendations were made by the Panel for similar activities in the future. One was that an initial product pool as large as 90 should be subjected to an initial screening by at least three or even more subpanels, with similar products organized in advance into as many subpanel groupings as would seem to be necessary. The other recommendation, somewhat in the same vein, was that a plan for splitting the group into subpanels requires that more time be made available, or a more effective mechanism arranged, for each subpanel to become familiar with the products being reviewed by the other subpanels, so that the ultimate decisions made in plenary sessions about specific products and dissemination plans for them can be made at the highest possible level of confidence. Both these recommendations are central to any future plan to convene a panel for the comparative review of educational products.

Composition of the Initial Pool for Product Review

Initial steps in the formation of a pool of educational products to be reviewed by the 1972-1973 PROP Panel flowed naturally out of the 1971 PEP project. Products designated by the PEP panelists to be subjected to future review became the nucleus of the PROP pool. To this were added, at the request of NIE, the 21 products cited as exemplary in the 1971 study conducted by the American Institutes for Research (AIR) entitled "The Evaluation of the Impact of Educational Research and Development Products."

In order to secure concurrence from developers on inclusion of products from these two sources in the 1972-1973 PROP review, and to obtain other product nominations for the pool, the letter which begins on the following page was sent to each developer whose product(s) appeared on the initial list. The developer was asked whether he or she (a) wished to have the product(s) considered by the PROP Panel and (b) had additional products at an advanced stage of development to submit. This step produced over 120 nominations, primarily from regional laboratories and research and development centers, but also from colleges and universities and private, independent research organizations. To augment the pool generated thus far senior staff members working on PROP made several trips to Washington to comb the files of NCERD and other agencies within the USOE to locate other products which, according to the record, were at an advanced stage of development.

It had been a strong recommendation from the 1971 PEP panel that rigorous restrictions be put upon the product nomination process in an attempt to prevent the submission of marginal products which had not been adequately tested and validated. Thus careful inquiries were made concerning product verification at every stage of the search.

A final source of product nomination was the Bureau for the Education of the Handicapped (BEH) which nominated products designed for its special audience. Developers of all products identified in the last two steps

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As you may recall, in 1971 ETS had a contract with the National Center for Educational Communication (NCEC) to establish a nationally representative Panel and to support the Panel's efforts as it nominated from a pool of verified products a smaller pool of products from which NCEC could select those on which to concentrate its dissemination efforts. Five products out of the nine nominated have since had the benefit of NCEC dissemination funding.

We have a similar contract for Panel Review of Products this year and are now assembling the 1972 pool of about 100 products which will be subjected to Panel review. The objectives for this year's Panel are to identify from the 1972 pool approximately 25 products which the new National Institute of Education will be able to consider in devising and executing programs related to the dissemination and diffusion functions that now fall within its domain, and ETS's objectives are to extend our perceptions related to these products so that their potentials may be fully understood and described. NIE will subsequently select among the products identified those to receive the benefit of dissemination funding in the current fiscal year.

The makeup of the 1972 pool will include (a) products considered in 1972 whose developers concur in their inclusion on this round, (b) those selected in the American Institutes of Research (AIR) Impact Study whose developers concur in their inclusion in our study, and (c) other products thought by their originators to have reached that stage in their development which would make their inclusion in the pool appropriate at this time.

In general, products to be included should be at an advanced stage of development (6 or higher on NCERD's C-1 Product Development Status Report), with field test results available for review by our Panels when they meet in November of 1972*. Products already in the hands of commercial publishers will not be considered this year.

* The first panel meeting was actually held in January of 1973.

Our intention this year during the early stage is to ask the developer only for information about his product that is not available from other sources, including NIE, PARADE, NCERD, CEDaR, TAP, and PEP. Our most critical needs for information on your products (at least until we see what information is available elsewhere) relate to field testing, validation, and verification data that you have compiled, analyzed, and interpreted. Such materials of more recent date than April 1971 will be welcome additions to our product dossiers. We would appreciate your sending now as much documentation of this kind as is readily available. Additional materials can be added to our product dossiers until November 1972.

Thank you in advance for filling out the enclosed checklist and returning it in the stamped, self-addressed envelope.

Sincerely,

Wesley W. Walton
Program Director

mentioned were also sent the letter included earlier to see whether they wished a given product to be included and whether they had further entries to submit.

After completion of the step just described, the number of products in the working pool had risen to almost 200. Since plans called for the review of approximately 100 products, administrative criteria for cutting the size of the pool back to around 100 were worked out jointly by ETS and the NIE. One decision made which eliminated a large number of products was to exclude all products which were already being distributed commercially, unless these products came either from the BEH, one of the regional laboratories or a research and development center.

After application of the NIE-endorsed screening criteria and after products had been withdrawn at the request of their developers, the pool of products for Panel review stabilized at 90. These are listed, in accession number order, in Appendix A. The code number appearing after each product name is a classification scheme devised by ETS in collaboration with NIE. It was designed to maximize compatibility with the product classification scheme already in use by NCERD. A complete listing of the PROP version of the classification scheme appears as Appendix B. A printout of the products in the PROP pool, tabulated according to this classification system, appears as Appendix C.

Collection and Organization of Information on Products in the Pool

Once the PROP pool was stabilized at 90 products, the task of assembling information about them that would be maximally useful to the Panel in arriving at dissemination recommendations began in earnest. Because the Panel had to evaluate and compare such a large number of products in a relatively short space of time, it was incumbent upon the ETS support staff members to produce accurate and complete descriptive information on each product which would lend itself to rapid familiarization and would provide a uniform basis for comparisons across products.

Staff members from the ETS Test Development Division, some 26 in all, were assigned responsibility for gathering and organizing information about each product and for producing a product precis written to carefully spelled-out specifications. The information came to ETS from a number of sources. For products which had been held over from the PEP pool in 1971, considerable information and, in most cases, the products themselves, were at hand. The product developers, when they were asked if they wanted their products reviewed in PROP, were encouraged to forward additional materials, particularly any summative evaluation and validation reports which might have been published since 1971. For products which came into the PROP pool as a result of having been recommended in the AIR Impact Study, extensive reports on each product were available under AIR imprimateur. Additional up-to-date information was sought from each product developer involved.

For products newly nominated to the PROP pool by their developers or by the Bureau for the Education of the Handicapped, it proved necessary to gather product information de novo. The staff member assigned responsibility for preparing descriptive material on each product was encouraged to establish close telephone contact with the developer as soon as that product's entry into the pool had been officially established. The staff member assigned to a particular product almost invariably had subject-matter expertise in the area germane to it, and in a number of instances

had had prior experience with it, either in a teaching context or otherwise. A number of the reviewers were, in addition, evaluation specialists. Thus the reviewers were particularly well equipped to interact with product developers and to seek out those materials and publications which would be most useful in preparing product descriptions for the Panel's use. In a few instances, as in cases where the materials involved were exceptionally bulky or vastly expensive, it did not prove possible for the product reviewers and panelists to examine the products themselves. These were the rare exceptions, however.

In addition to examining the products, accompanying promotional literature, and technical reports on evaluation and validation studies, reviewers had access to information gathered in an intensive ERIC (Educational Resources Information Center) search and in a search of the government's files, including the so-called C-2 reports on the state of development of products being funded in the various regional laboratories and research and development centers and entries in the CEDaR catalog.

From the outset there was great concern for achieving uniform standards in product review, especially with so many different individuals engaged in the review process. Accordingly, at an early stage all product reviewers were asked to attend a meeting at which the project directors, project manager, and project coordinator explained the nature and purpose of PROP and went over a detailed document (Appendix D) which outlined the procedures to be followed in preparing a four-page precis on each product. The precis was to encompass a brief description of the product; a summary of available information on evaluation and validation; a discussion of implementation implications, including such things as special requirements for trained and/or additional personnel, the need for special materials or facilities, administrative considerations, and possible system disruption; costs; dissemination efforts already made by the product developer; possible obstacles to dissemination; and suggested dissemination stretegies, including a projection as to possible activities which the availability of additional dissemination funds as a result of PROP might make possible.

A dossier was established for each product, and as material was accumulated, or action taken, entries were scrupulously made on the dossier cover sheet (Appendix E) and the PROP action form (Appendix F). In addition, a card file was maintained on each product, and as products were added at the request of developers, or dropped either by request or as a result of decisions by NIE, it became possible by a simple filing operation to produce at any instant a complete list of products still under consideration in the active pool.

Bulky materials too large to include in dossier files, including such things as films, filmstrips, cassettes, microfiches, games, three-dimensional models, and long reports, were stored in a convenient location and product reviewers were promptly advised as to their availability. Full-time clerical support was assigned to the project, and a log was maintained so that the exact location of any PROP product materials could be ascertained at any time.

A valuable source of product materials was the NIE itself. In order to serve the needs of its own review panels, the NIE's predecessor units in the USOE had accumulated a large collection of educational products. Many of these became final entrants into the PROP pool. Since there were long and unforeseen delays in finalizing the PROP pool, the willingness of the NIE to share its product collection with ETS solved many problems when time was of the essence. In addition, rather heroic measures, including the use of volunteer couriers, were resorted to in order to obtain original product materials for product reviewers in time for them to produce thoughtfully organized precis in advance of the first Panel meeting.

In order to achieve accuracy, uniformity, and freedom from bias, precis preparation was monitored closely by senior staff members working on PROP. Each precis was reviewed at least twice, in most instances by two different individuals, and revisions were incorporated to accommodate the criticisms and suggestions thus generated. In a number of instances, as many as three revisions were undertaken. Almost all precis were revised twice. The precis were carefully edited, typed, proofed, and assembled into product classes in a sequence designed to facilitate Panel review.

On completion, a copy of each precis was sent to the product developer for his approval (Appendix G). The developer was asked to check the precis for accuracy and to provide any supplementary or clarifying information available. In almost all instances the product developers concurred, at least in the main, with the substance of the precis. In a few instances minor corrections were made and some helpful evaluation or validation reports which had recently become available were supplied as a result of this step. Almost all product developers had an opportunity to react to the precis on their products in advance of the first Panel meeting. In those instances where time pressures did not permit this, there was ample time to permit developers' comments to be brought to the attention of panelists by means of supplements prepared for and distributed at the second Panel meeting.

Before the Panel meetings, the precis were organized into loose-leaf subpanel books, by NCERD specialty area, and given "book numbers" for convenience in location, reference, and retrieval. The precis books served as the primary source of information for the panelists in carrying out their comparative review. Panelists were, of course, encouraged to consult product dossiers and the other original materials available rather than to rely exclusively on the information in the secondary sources. To assist in this process, such materials were made readily available at both Panel meetings, catalogued and located for easy reference, and ETS staff members provided assistance in locating desired materials. A variety of equipment, including slide and film projectors and cassette players, was available at Panel meetings so that multi-media materials could be observed directly.

During the interval between the two Panel meetings, product reviewers provided additional information sought by panelists, either via a reanalysis of available dossier materials or by requesting additional information from product developers. In one instance a site visit was made by an ETS staff member to seek the information desired and in two other instances, where the focus was on test reviews, measurement experts

in ETS's Developmental Research Division made extensive independent and comparative judgments as to the strengths and weaknesses of the tests involved. All these materials were available to panelists at the start of their second meeting in February.

After the Panel had made its final recommendations at its second meeting, product reviewers provided expository discussions, aimed at a lay readership, of all products either given dissemination recommendations or suggested for review in the future. The resulting product descriptions form the body of two auxiliary documents. That for products given dissemination recommendations accompanies this report.

Development and Refinement of Selection Criteria

Introduction. In the 1971 project for the selection of products for focused dissemination, a major concern of panel members was the formulation of a detailed set of criteria for evaluating products. As the panel's conception of criteria evolved through discussion and through application of criteria to products, Michael Scriven developed a series of worksheets, each reflecting the current status of the panel's thinking. The worksheet shown on page 27 is two generations beyond the eighth version of the 1971 worksheet prepared by Scriven after the completion of the 1971 selection process. It was designed after the ninth version was subjected to review by the 1972-1973 Panel and by the NIE in the months prior to the Panel's first meeting.

The evaluation strategy invoked through use of the worksheet focuses on four broad characteristics of each product: (1) Goals, (2) Effectiveness, (3) Costs, and (4) Adoptability. Within each of these areas a number of detailed considerations are identified as having a bearing on the evaluation of that product characteristic. Provision is made for one or more ratings for each characteristic. In arriving at an overall evaluation of the product, each evaluator used the information available on the product and the detailed judgments recorded on the worksheet in whatever way seemed most appropriate. Neither formal nor informal weightings for the various aspects of the criterion were called for. Thus the detailed analysis of the criterion was intended to aid in making judgments and to facilitate discussion of products rather than to impose any formal relationship between the overall evaluation and the evaluations made earlier on a more detailed level of analysis.

Criteria for Selection of Products. The entries on the Product Evaluation Worksheet itself are necessarily brief. Understanding of it may be enhanced by studying the amplified statements on pages 26-34 as the form is reviewed.

Goals. The extent to which the goals envisaged by a product's developer are significant for education. Five specific aspects of this criterion may be identified:

(1) Urgent present need -- Does the product address itself to urgent needs?

(2) Educational centrality -- Does the product concern itself with outcomes which are central to the educational process rather than with special, limited outcomes?

(3) Size of target population -- How large is the group for which the designer considers the product appropriate?

(4) Notable originality -- Does the product embody well-conceived innovations in content, method, or both? Does it reflect old orientations or new ones?

(5) "Leverage" or "multiplier" -- Would use of the product be likely to facilitate the adoption of other educational improvements by the school?

Evaluation of these specific considerations is to be expressed in terms of three options:

\+ Significant positive factor

\- Significant deficiency or drawback

? Unable to make a reliable judgment on the available evidence

This coding scheme for the evaluation of specific considerations is used throughout the worksheet except in the case of Adoptability.

The overall rating for Goals is to be expressed on the following scale:

A Excellent

B Good

C Fair

D Poor

F Undesirable

? Insufficient Data

A relatively high degree of confidence in the rating made is to be expressed by a double circle.

1973 PRODUCT EVALUATION WORK SHEET
PANEL REVIEW OF PRODUCTS
PROP

PROP AC [ ] BOOK NO [ ]

Descriptors

Rater Name Code Date

Evaluation of Considerations

Judgment Codes (Significant positive factors or deficiencies)
+ Significant positive factor in your judgment
– Significant deficiency or drawback
? Unable to make reliable judgment on available evidence

Ratings

Rating Scales (N.B. Use double circle or double check to indicate relatively high confidence)

Goals and Desirability		Performance Rating	
A	Excellent	A	Clearly Effective
B	Good	B	Good
C	Fair	C	Fair
D	Poor	D	Poor
E	Undesirable	E	Inadequate
?	Insufficient Data	?	Insufficient Data

GOALS

+ – ? Urgent present need
+ – ? Educational centrality
+ – ? Size of target population
+ – ? Notable originality
+ – ? "Leverage" or "multiplier"

Overall Rating
A B C D E ?

EFFECTIVENESS

Adequacy of Test Data
+ – ? Sample size
+ – ? Sample fairness
+ – ? Adequacy of controls
+ – ? Validity of criterion
+ – ? Objectivity of judgment
+ – ? Evidence of Long Range Effects

Actual Performance in Field Tests
+ – ? Student Performance Changes
+ – ? Student Attitude Changes
+ – ? Teacher Reactions

Other Evidence
+ – ? Background Evidence
+ – ? Internal Evidence

Performance Rating on Stated Goals
A B C D E ?

Performance Rating on Side Effects
A B C D E ?

Desirability of Side Effects
A B C D E ?

Observed Side Effect(s) (On target population and/or other untargeted population)
+ – ?

Remarks

COSTS

Cost of Materials
+ – ? Basic materials: initial year
+ – ? Basic materials: continuing cost per year
+ – ? Enrichment materials

Other Costs
+ – ? In-Service Training Costs
+ – ? Repair/Upkeep/Running/Temporary Replacement Costs
+ – ? Extra/Less Space
+ – ? Special Needs (e.g., projection room)
+ – ? Consultant Costs

Extra/Less Staff
+ – ? Professional
+ – ? Paraprofessional
+ – ? Technical
+ – ? Clerical

Opposition/Support from
+ – ? Students
+ – ? Staff
+ – ? Community

+ – ? System Disruption Costs (e.g., "Weaning" problems)

Preliminary Estimate of Cost Level to Adopting School

Installation Costs
[ ] Major
[ ] Substantial
[ ] Modest

Continuing Costs
[ ] Major
[ ] Substantial
[ ] Modest
[ ] Potential Saving

ADOPTABILITY

Materials (Check Any That Apply)
___ Sample only
___ Limited quantities now
___ Unlimited quantities now
___ Tests, etc., also available
___ Enrichment materials
___ Situation unclear

Use (Check Any That Apply)
___ Requires advance planning
___ Requires plant changes
___ Requires support system contracts

Current Status with Respect to Adoptability
[ ] Could readily be installed with modest planning effort
[ ] Could be installed with substantial planning effort
[ ] Not ready for widespread use
[ ] Status unclear

OVERALL EVALUATION OF PRODUCT

Judgments of
+ – ? Goals
+ – ? Effectiveness
+ – ? Costs
+ – ? Adoptability

+ – ? Availability/Unavailability of Other Support
+ – ? Availability/Unavailability of Competing Product(s)

Identify competing product(s):

Overall Rating of Presently Demonstrated Desirability for Inclusion in Recommended Product Pool
5 Definitely Should be Included
4 Good Prospect
3 Will Accept
2 Bad Prospect
1 Definitely Should Not Be Included
H Hold for Next Year's Pool
[ ] See comments on back of sheet

Effectiveness. The extent to which the product may be expected to achieve its stated goals with the target population and the extent to which it may be expected to produce desirable or undesirable side effects. Side effects may include outcomes other than those included in the stated goals or effects on populations other than the target population and may be either positive or negative.

In evaluating effectiveness, a major group of considerations is concerned with the adequacy of test data, as follows:

Sample size — Were studies conducted on a substantial body of students in a number of classrooms?

Sample fairness -- Were the study samples reasonably representative of the target population?

Adequacy of controls -- Did the experimental design include suitable, well-defined comparison groups together with the treatment group?

Validity of the criterion -- Were the measures of educational outcomes appropriate to the stated goals for the product?

Objectivity of judgment -- If ratings by administrators, teachers, or students were obtained, did the ratings focus on relatively concrete, observable potential outcomes?

Evidence of long-range effects -- Were follow-up studies made to determine whether the effects observed at the end of the experiment were sustained over a substantial period of time?

Another group of considerations is concerned with the actual performance of the product in field tests, as follows:

Student Performance Changes -- Is there evidence that changes in student performance occurred under realistic conditions?

Student Attitude Changes -- Is there evidence that students who participated in field trials responded favorably (or unfavorably) to the product?

Teacher Reactions -- Is there as to how teachers reacted to various aspects of the product?

Two further considerations are concerned with possible supplementary evidence, as follows:

Background Evidence -- Is there reason to believe that the earlier success of the developer in related fields is likely to contribute to the effectiveness of the product under consideration?

Internal Evidence -- Is there evidence of care and systematic effort in the development of the product which supports (or fails to support) the empirical evidence as to effectiveness?

The worksheet provides space for describing any significant side effects for which evidence is available.

The performance Rating on Effectiveness of the product in achieving its stated goals is to be expressed in terms of the same rating scale as that used for Goals, as follows:

A	Clearly Effective
B	Good
C	Fair
D	Poor
F	Inadequate
?	Insufficient Data

Some problem exists in expressing judgments as to side effects because the unintended outcomes of a product may be either desirable or undesirable. The present worksheet provides for separate ratings of the extent of side effects on the scale used for performance rating and the desirability of side effects on the scale which is used for Goals, as shown on page 26. For side effects which are desirable, the meaning of the two scales should be clear. A performance Rating on Side Effects would indicate the extent to which clear evidence of the operation of the side effect is available and the rating on Desirability of Side Effects would reflect how desirable the outcome is judged to be. Thus, if a side effect is undesirable but there is strong evidence that it exists, the Rating on Side Effects might be recorded as "Excellent" to indicate that clear evidence of the effect was available and the rating on Desirability of Side Effects would be recorded as "Undesirable." On the whole, it seems better to think of the Rating on Side Effects as an evaluation of evidence that the product is

in fact producing the designated side effects and to allow judgment as to desirability to affect only the rating designated Desirability of Side Effects.

Costs: The extent to which the introduction and subsequent use of a product place heavy demands on a school's resources, both economic and human. In developing detailed criteria related to costs, the 1971 panel noted that the introduction of a product might result in reduced costs, particularly operating costs, in some instances.

Three considerations related to Costs of Materials may be identified, as follows:

Basic materials: initial year
Basic materials: continuing cost per year
Enrichment materials

A number of other costs inherent in the introduction of a product deserve consideration, as follows:

In-service training costs
Repair, upkeep, running, and temporary replacement costs.

This consideration includes costs which could reasonably be anticipated to keep the product in use over and above the basic continuing operating costs.

Extra (or less) space needed
Special needs (e.g., projection room)
Consultant costs

An important group of considerations is concerned with whether additional (or fewer) staff members of various kinds would be needed if the product were put into use. Separate evaluations are to be made for four kinds of staff members, as follows:

Professional
Paraprofessional
Technical
Clerical

In addition to the dollar and time costs of a product, there may be attitudinal factors which deserve consideration in assessing the total "cost" of an innovation. It is plausible, of course, that attitudinal factors may be either unfavorable or favorable. Accordingly, the worksheet provides for judging the opposition to (or support for) the product on the part of the:

Student
Staff
Community

Finally, consideration may be given to the fact that certain products tend to disrupt the operation of the system as a whole. Provision is made on the worksheet for noting that installation of a product may be "system-disruptive."

For the overall evaluation of Costs, separate rating scales are provided for Installation Costs and Continuing Costs, as follows:

Installation Costs	Continuing Costs
Major	Major
Substantial	Substantial
Modest	Modest
	Potential Saving

It must be acknowledged that evaluation of a product with respect to costs is very difficult without specific information about the school system in which it is to be used and without information as to the cost of alternative ways of achieving the same goal. Consequently, the categories for rating costs are relatively broad and do not, except for the "potential saving" category under Continuing Costs, call for a comparative evaluation.

Adoptability: The extent to which the product is readily available to a school which wishes to adopt it.

The detailed considerations for Adoptability involve primarily description of current status rather than evaluation. Consequently, judgments are

expressed by a check mark rather than by the +, -, ? code used for other considerations. Concerning Materials currently available from the author or publisher, the worksheet provides for checking any of the following that apply:

Sample only
Limited quantities now
Unlimited quantities now
Tests and other supplementary materials also available
Enrichment materials
Situation unclear

Another aspect of Adoptability concerns preparatory steps to be undertaken by a school system before a product can be put into use. Under Use, the worksheet provides for checking any of the following that apply:

Requires advance planning
Requires plant changes
Requires support system contracts

Evaluation of Adoptability is concerned with the current status of the product. Four options are provided, as follows:

Could readily be installed with modest planning effort
Could be installed with substantial planning effort
Not ready for widespread use
Status unclear

Overall Evaluation: Presently demonstrated desirability for inclusion in the pool of products recommended for dissemination.

The four major characteristics in the evaluation strategy are clearly relevant to an overall judgment. In addition, the following two considerations may, at least for some products, have an important bearing on the judgment:

Whether or not other dissemination support is available
Whether or not at least one competing product is available

Space is provided on the worksheet for specifying any competing product(s).

A Panel member's Overall Evaluation of a product is to be expressed in terms of a personal judgment as to the desirability of including the product in the recommended product pool. The six options are:

5 Definitely should be included
4 Good prospect
3 Will accept
2 Bad prospect
1 Definitely should not be included
H Hold for next year's pool

Finally, the worksheet provides a box which may be checked to indicate that comments appear on the back of the worksheet. Such comments constitute an important aspect of the entire evaluation process. In particular, comments may include:

(a) Conditions under which a designated higher Overall Evaluation rating would be given
(b) Statement of the main factors leading to the favorable or unfavorable rating given to a product
(c) Specification of missing information about a product which the developer should have supplied or the analyst should have secured

Refinement of Criteria. As noted in the introduction to this section, the ninth version of an Evaluation Worksheet was reviewed by members of the 1972-1973 Panel in preparation for the design of a worksheet for PROP before the first Panel meeting. On the basis of the comments returned by panelists and further study by senior staff members working on PROP, a tenth version of the Evaluation Worksheet was designed. That revision is the form shown on page 27. It was this tenth generation in the evolution of PEP-PROP Evaluation Worksheets that was used in PROP 1972-1973. An amplified statement similar to that given here accompanied the form to refresh the memories of returning panelists and to orient new members as to the current state of the criterion statement.

Panel Procedures in the Initial Stages of Product Review

Introduction. The initial PROP pool of products was almost twice the size of that of PEP in 1971, and two Panel review meetings, rather than the three held in 1971, were contemplated for PROP. A further complication came about as a result of the unexpected slippage of time in resolving the question of how many and what kinds of products would go into the initial pool for Panel review. It was therefore necessary to plan the activities of the Panel with great care, to ask Panel members to complete certain tasks before and between the two scheduled meetings, and to expect panelists to put in long and intensive sessions during both meetings and to keep up-to-date on their individual review of products by long hours of work outside of meetings. It was also necessary to schedule the Panel meetings as late in the project calendar as feasible to allow adequate time for almost all staff product analyses to be prepared in advance of the first amd all to be completed well before the second meeting. The two starting dates were a month apart, the first meeting being held January 10-12; the second, February 7-9, 1973.

As preparatory steps during late November and early December, panelists reviewed and were asked to comment upon a suggested set of Panel procedures and, as noted earlier, to make modifications in the Evaluation Worksheet which served to put in shorthand version the criterion base upon which Panel consensus was essential before definitive judgments could be made in the product review process. As further preparation during late December and early January, the panelists familiarized themselves individually with the analytical precis on six products sampled from the initial pool to test their ideas on the criterion base, to see if the criterion base would satisfy their own standards in dealing with these test cases in comparative product evaluation, and to take the beginning steps in standardizing the product evaluation process for PROP 1972-1973.

Preparations for Panel Review. It would seem to be instructive first to look at the plans that were made for the Panel's work and then to review

the events that actually occurred. To this end, the planning memorandum sent as a draft to PROP Panel members is shown in full on the following pages.

Initial Stage of Product Nomination. Among the early decisions made once the Panel's first session was under way were acceptance of the Evaluation Worksheet dated January 1973 as the tool to guide panelists in applying the accepted criteria to their review of individual products (see page 27); concurrence in the organizational pattern calling for two subpanels, each with responsibility for the initial screening of about half the 90 products scheduled for review; and agreement to start out in each subpanel with group discussion of as many as necessary of those products for which precis had been reviewed before arrival, until each panelist was confortable in proceeding further with individual product review on his or her own. After the panelists worked through two or three cases as a subpanel, subsequent study of product-related information during the remaining sessions of the first meeting and the first half of the second meeting was done individually or in two-person teams.

The typical pattern was for the five members of a given subpanel to convene periodically to reach decisive action on a block of four to six products each had finished reviewing and then to return to information sources to prepare for the next session together. During one of these subpanel discussions each group came to a decision that the process would have to be accelerated if the task were to be accomplished on schedule. A similar modification was installed in both subpanels. A two-person team in each group, consisting of those most experienced in systematic materials evaluation, specialized in the validation-verification-effectiveness aspects of product review while the remaining three panelists concentrated on factors related to goals, adoptability, and costs. The results of giving a focus to each panelist's search seemed to be that products were given more thorough review in the time available and that panelists had fuller understandings and insights related to each product at the time decisive subpanel action on it was taken than would otherwise have been the case.

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Panel Review of Products (PROP) D R A F T
Tentative Outline of Panel Activities November 21, 1972

Introduction. The identification of exemplary, research-based products which hold promise of effective educational use is the essential goal of the Panel's activities. Within the limitations imposed by the number of products (100 plus) to be judged and the time available for completing the judgments, the Panel has full responsibility for determining criteria and procedures to be used in evaluating products, for devising procedures which will insure that panel decisions fairly represent the judgments of Panel members, and for establishing its own work schedules. This paper has been prepared to serve as a basis for review and reaction by individual panelists prior to the first meeting. Completion of these steps at this time will bring the tasks ahead into feasible bounds.

Outline of Activities

One possible sequence of steps in the evaluation process may be described as follows:

a. Formulation of criteria. This step is concerned with reaching a consensus with respect to the characteristics of a product and the kinds of evidence about the product which need to be considered in evaluating it. To the extent that Panel members can agree about the kinds of information that should be considered, the final decision process should be facilitated. A proposed Product Evaluation Worksheet, based primarily upon the criteria developed in the 1971 Product Evaluation Program, is attached. A criterion statement will be drafted when comments from panelists are in hand.

b. Reading of product summaries (precis) and examination of basic source materials (dossiers) by Panel members. It is clear that a substantial portion of the Panel's time must be allocated to

familiarization with each product to be evaluated. For this purpose, analytical summaries (precis) prepared by ETS staff members will be available for each product. In addition, one or more folders of basic source materials (a product dossier) will be available for each product.

c. Judging the quality of a product. This step will presumably involve an independent judgment based on a consideration of relevant information by each Panel member.

d. Arriving at a decision concerning the product and documenting the decision. This step requires a procedure for making Panel decisions which takes full account of the views of each member. Further expression of the Panel's evaluation of specific aspects of the product would be desirable.

Proposed Two-Stage Selection Process

It is recommended that for purposes of making an initial selection the Panel be divided into two five-member subpanels. Each subpanel would be responsible for performing the initial selection on approximately half of the products in the 1972 product pool. In assigning products to subpanels, care would be taken to assign products designed to perform similar educational functions to the same subpanel. Each subpanel would be asked to select 15 to 25 products for consideration by the entire Panel in the final selection stage.

If the two-stage selection plan is used, and if half or fewer of the products enter the second stage, the amount of time devoted to evaluating the products would be about one-fourth less than would be required if every Panel member were to evaluate every product. The time thereby saved could be devoted to a more intensive scrutiny of the products finally selected from the reduced product pool.

Tentative Outline of Panel Activities November 21, 1972

Proposed Schedule of Panel Activities

a. Before the first meeting. As suggested in the covering letter for this memorandum, Panel members are asked to comment in writing on the proposed work plan and on the attached Evaluation Worksheet. In addition, Panel members will be asked to familiarize themselves with the precis for six products. These six precis will be mailed to Panel members before the first meeting.

b. During the first meeting. It is recommended that the first main agenda item be a discussion of criteria and the Evaluation Worksheet so that revisions of the worksheet can be made before evaluation of products begins. The second main agenda item would then be the formulation of working procedures and a tentative schedule of Panel activities. If the Panel decides that the evaluation of products should be done during the Panel meetings, when members will be free of interruptions and will be able to refer to product dossiers, it is clear that a large fraction of the two-day meeting will be needed for this kind of activity. If the Panel decides to operate during the initial screening stage as two subpanels, each fully responsible for the approximately 50 products assigned to it, each subpanel might begin work by evaluating the six products mailed in advance, followed by a full Panel discussion of the six products. After this general session, however, most of the remaining time could be devoted to evaluation of products by Panel members, to discussion of ratings, and to reaching a tentative decision concerning the products to be considered in the final selection stage.

c. Between meetings. If the delegation of responsibility to subpanels is adopted, and if final decisions on inclusion of

products in the final selection stage are made at the second meeting, it would be desirable if Panel members refreshed their memories concerning products before the second meeting. In addition, it is possible that precis for one or more products may not be ready for the first meeting. If so, it would be desirable for Panel members to familiarize themselves with these precis before the second meeting. Some Panel members might wish, also, to familiarize themselves with the precis of all products considered by the other subpanel (or of those products tentatively selected for the final selection stage).

d. Second meeting. The second meeting would begin with an opportunity for reference to product dossiers and for evaluating any products for which a precis was not ready for the first meeting. Each subpanel would then complete its decisions concerning products to be included in the final selection stage. Each subpanel member would then evaluate the products which were selected by the other subpanel. As far as possible, the second day of this meeting would be devoted to discussions of products, to selection of not more than 35 products to be included in the "Recommended Product Pool," and to documentation of the decisions reached. As part of the documentation, Panel members may wish to make final revisions of their Evaluation Worksheets, including comments on the products. These final worksheets would then be summarized by the staff after the meeting for inclusion in the final report of the Panel's work. In these summaries, there would be no attribution of ratings or comments to particular Panel members. The summary report would be mailed to all Panel members for review and comment before it is forwarded to the National Institute of Education.

Tentative Outline of Panel Activities November 21, 1972

Proposed Mechanism for Subpanel and Panel Decisions

It is suggested that each Panel member make an overall judgment on the suitability of a product for inclusion in the Recommended Product Pool and express his evaluation on the following scale:

5 Definitely should be included
4 Good prospect
3 Will accept
2 Poor prospect
1 Definitely should not be included.

At the completion of the initial reading session, product ratings by each subpanel member would be considered by the entire subpanel. Products would then be discussed and each subpanel member would be asked to rerate each product in light of the discussion. If the suggested scale is adopted, it would appear that the minimum total rating for acceptance would probably lie between 15 and 20 in the initial selection stage. A subpanel might wish to discuss further any products which were just above or just below the point selected as the minimum.

Each product, at the final selection stage, would have been evaluated by all Panel members. At this stage, the rating of a product by each Panel member and the significant characteristics of the product would be discussed by the entire Panel. This would be followed by a rerating of each product. The Panel would need to establish a minimum acceptable total rating and might wish to make a final review of all products near the minimum acceptable total in order to insure that each product selected is an exemplary, research-based product which holds promise of effective educational use.

The mechanics of record-keeping on subpanel activities utilized the Evaluation Worksheet. Each panelist prepared a worksheet for each product assigned to his or her subpanel, and all members proceeded to move through the products in his book by book order number. Each member had his own "out-box" which was monitored by the staff. Worksheets were periodically collected, recorded, and returned to each panelist's "in-box." As a consequence, when a subpanel session turned to a given product, reference to the record would provide a summary of overall evaluation ratings on that product, and the discussion could quickly zero in on patterns of convergence and divergence in Panel judgments, together with their possible implications.

The "Blue" subpanel, consisting of Blanchard, Bollenbacher, Gaines, Komoski, and Scriven, assumed responsibility for initial review of 47 products. These were classified in three NCERD Specialty areas as follows: B. Planning, management and evaluation systems - 15, C. Materials for use in instructional personnel development - 15, and F. Materials for home-school intervention in the early years - 17. The results are summarized in the table shown below.

BLUE SUBPANEL INITIAL NOMINATIONS

Product Classification	B	C	F	Total
Number of Products	15	15	17	47
Nominated for Plenary Panel Review	7	1	3	11
Nominated as Hold for Another Year	3	5	2	10
More Discussion and/or Data Needed	4	5	6	15
Probably Not for Nomination	1	4	6	11

The "Green" subpanel, consisting of Krathwohl, Lumsdaine, Mancuso, Trollman, and Watson, assumed responsibility for initial review of 43 products. These were classified in three NCERD Specialty areas as follows: A. Materials for use in theory and knowledge building for organizational change - 9, D. Curricular programs - 29, and E. Culturally-targeted curricular programs - 5. The results are summarized in the following table.

GREEN SUBPANEL INITIAL NOMINATIONS

Product Classification	A	D	E	Total
Number of Products	9	29	5	43
Nominated for Plenary Panel Review	0	6	0	6
Nominated as Hold for Another Year	1	7	*	10
More Discussion and/or Data Needed	1	14*	*	18
Probably Not for Nomination	7	2	0	9

*Some products in these categories were not subjected to review during the initial stage of product nomination at the first meeting.

Final Stage of Product Nomination. Until 9 a.m. February 9, the hour scheduled for a plenary session, the second meeting was a continuation of subpanel deliberations. Both the January and the February meetings ran well into the night. The agendas were extremely full. Precis on three products were not available until the second meeting. An additional eight products had not had the benefit of subpanel discussion, and at least 24 others had been slated for extended subpanel considerations by the end of the first meeting. On a number of products in this latter group, additional information had been secured from developers between the meetings, and in one case a site visit had been made by an ETS professional staff member. Finally, each subpanel took on the added task of reviewing the other subpanel's work

and entered demurrers in those instances where the overall judgment differed as to the course of action recommended.

The Blue subpanel concluded its work with nomination from its pool of 17 products as candidates for dissemination recommendations of some kind. As will be seen in the next section, not all nominations survived the plenary session. In a separate action, a limited number of products were designated to be held over for review in another year.

The Green subpanel nominated from its pool eight products as candidates for some sort of dissemination recommendation; three additional products from its pool, making 11 in all, were nominated for dissemination-oriented action as a result of the plenary discussion. Here again, not all nominated products survived the plenary session. The Green subpanel also identified products to be held over for review in another year. Its list in that category was considerably larger than that of the Blue subpanel.

As it turned out, the total numbers of products on which the two subpanels made recommendations for subsequent action related either to dissemination-related matters or later comparative review were about equal.

Panel Procedures in the Final Stages of Product Selection

Introduction. There were three parts to the panelists' preparations for their plenary product selection session. The two series of subpanel sessions, the first the month before and the other the day before, had given each panel member an opportunity to become fully acquainted with all the products likely to be nominated for full-Panel review. Each panelist had his own set of product precis, on both his subpanel's products and on those of the other subpanel. Dossiers containing full documentation on all products had been readily available and were heavily used. Updated supplements to product precis had also been issued at the start of the February meeting and were posted to panelists' product precis books. The third element of preparation was that the Panel members had had their precis books with them between the January and February meetings, together with analyses supplied by staff members summarizing the results of their deliberations in January. By reviewing the tabulations supplied, each panelist could ascertain with regard to products in his subpanel's pool and in the pool of the counterpart group the overall evaluation of each panelist (by code rather than by name) on each product. He could also tell in the case of an individual product whether, according to initial subpanel judgment, a product seemed to be headed toward a dissemination recommendation, a hold category, or some other classification.

Panel members were encouraged to devote attention between the meetings to reading precis from the pool of their counterpart subpanel, but to concentrate on those products which had received ratings high enough in the initial stage to be possible candidates for the final pool, leaving aside those which the other subpanel had rated low or otherwise indicated should be rejected. On the other hand, they were also urged to take the opportunity to put up for reconsideration any rejection-bound product they might identify as having special appeal to them.

As a consequence of the preparations made, the Panel members had acquired an extensive background, had made reminder notes on their Evaluation Worksheets, and had organized their own worksheets for easy reference

when a given product was brought up for plenary review. In most cases, all panelists had worksheets on every product and could enter into the discussion and decision on each product as it was nominated for plenary consideration. In the few cases for which this was not true, panelists with the product well in mind gave a résumé to refresh memories so that both discussion and decision could in fact be representative of the Panel as a whole.

Panel Agreements on Decision Categories. It had become apparent at the January meeting that the Panel members were not inclined toward a plan for plenary session decisions which would lead to clear-cut selection of certain products and to certain rejection of others. The collective judgment seemed to be that there were so few clearly outstanding, convincingly verified, and demonstrably cost-effective products among those reviewed as to make for "no competition." Certainly it would not have been feasible for a final pool of products as large as the maximum contemplated in the original plans of the NIE (35) to have been designated for out-and-out dissemination action.

The thinking of Panel members had turned early to the possibility of indicating in the case of certain products that seemed promising a variety of levels of dissemination for which sound justification might be reasoned and of indicating with respect to a given product specific reservations which the NIE might take into account in the process of moving ahead with dissemination plans. In moving toward such a decision-making model, the Panel cleared the way for admission into the final pool products whose likely future promise could be perceived but whose current viability could not be established.

In advance of the February meeting, panelists were sent a proposed set of decision categories as shown on the following page. The choices suggested represented an expansion of the overall ratings in the lower right-hand corner of the Evaluation Worksheet, with approximate relationships as shown in the next chart.

Proposed

1973 DECISION CATEGORIES

PANEL REVIEW OF PRODUCTS

PROP AC ☐ PROP BOOK No. ☐

Descriptors _____

Rater Name/Code _____ Date _____

☐ A. This product is exceptionally deserving of dissemination.

☐ B. This product deserves to be disseminated.

☐ C. This product deserves to be disseminated subject to the following reservation(s):

☐ D. This product deserves limited dissemination solely for the purpose of obtaining field-test data on effectiveness.

☐ E. This product would deserve to be disseminated if the following deficiency (or deficiencies) were removed:

☐ F. This product should not be considered for dissemination until substantial additional evidence of its effectiveness in achieving its stated goals has been reported.

☐ G. Further research or development is needed before an adequate evaluation of this product can be made.

☐ H. This product should not be disseminated for the following reason(s):

Overall Ratings On Evaluation Worksheet	Decision Categories Proposed
5. Definitely should be included	A. Exceptionally deserving of dissemination B. This product deserves to be disseminated
4. Good prospect	C. Deserves to be disseminated subject to reservation
3. Will accept	D. Deserves dissemination to obtain more field-test data E. Deserves dissemination if deficiency is removed
2. Bad prospect	F. Should not be considered without more evidence on effectiveness G. Requires more research and development prior to evaluation
1. Definitely should not be included	H. Should not be disseminated

In this decision model, products which were judged as appropriate to be held for the future or as rejections would have a majority (6 or more) of the panelists giving ratings of F, G, or H. Where majority ratings were higher, the Panel would be guided by the mix in its voting pattern in the process of framing a product-explicit recommendation.

With both Panel and staff preparations as background, the Panel turned to discussion as to the form its decisions would take. The Panel was not particularly enamored of the decision categories the staff had proposed, although it did persistently pursue the objective of gaining considerably more latitude than a "go-no go" (in or out) focus would have permitted. A substantial block of time was spent at the outset, therefore, in set-

tling upon a method that would enable effective and useful decisions to be drawn by way of Panel discussion of the overall judgments--both quantitative and qualitative--that had resulted from earlier individual study by panelists and from discussion in subpanel sessions. What the Panel sought, essentially, was an adequate basis for communicating a broad array of recommendations to the NIE concerning the more promising products among those that had been brought to its attention.

The reasoning that evolved from the Panel's coping with the categorization problem ran somewhat as follows:

- Most products entered into the initial 1972-1973 PROP product pool seemed "betwixt and between." They were not far enough along to be vigorously disseminated (such as through commerical distributors) but were far enough along to appear to developers and to a lesser extent to panelists to be promising (even though hard data were often not yet in). Under such circumstances, it seemed highly unlikely that any substantial number of products in the initial pool would be recommended as strong prospects for dissemination funding or, for that matter, recommended for dissemination funding conditional upon minor refinements and improvements.

- The PROP Panel saw the products and their potential from the vantage point of a disinterested neutral corner. Its collective judgment, it would seem, could be applied beyond selection of products for NIE dissemination to include suggested alternative courses of action that might be indicated in order to justify that vigorous dissemination actions be taken--either currently or later. Gaps in a product's development might be identified, or the need for additional field-test data, or the need for more or different product evaluation activities.

- Perhaps the PROP Panel should extend the dissemination-oriented recommendations it makes for the NIE to take into account such gaps as those that have been identified during product review,

and to propose the relationship that would seem appropriate between the closing of these gaps and dissemination funding for a given product.

The approach taken by the Panel to easing the stringency of selection requirements seemed sound to the observers present from NIE. The Panel, under Krathwohl's guidance, consequently proceeded to define six differentiating categories into which to channel decisions as to dissemination recommendations:

1. An ideal product, well evaluated and ready to go (a rare occurrence). Here, dissemination funds could be recommended without reservation.

2. A promising product about whose effectiveness the developer must learn more and for which he needs money. Here, a combination of field trials and dissemination might be recommended as concurrent actions, even with attendant risks.

3. A promising product for which money is needed for independent review of available data or for the execution of an independent evaluation. Here, a recommendation would probably call for completion of these steps prior to dissemination funding, although in some cases concurrent funding of the additional evaluation work and dissemination activities might be indicated.

4. A promising product that needs to be carried farther along specified lines, such as further development, more extensive field trials, or other actions ordinarily considered part of predissemination research and development, either by the original developers or by others who would take over, carrying the product's development to completion. Here, the recommendation would probably be limited to matters related to completion of the research-development-evaluation cycle, leaving it to a subsequent panel to draw conclusions regarding dissemination.

5. A promising product, already commercially distributed, for which a dissemination subsidy is judged as probably the difference between "making

it or not." Here, the distinction would not be the kind of dissemination-oriented recommendation made, but rather the kind of product to which the recommendation would apply.

6. A promising product, already commercially distributed, the only one of its kind currently available, for which there is strong evidence of its effectiveness in producing improvements in education. Here, a recommendation would reflect an assumption that one of the prime objectives of the dissemination activities of the NIE is getting the best available practices (products) into wider use, whatever their source.

It should be emphasized that in delineating the six categories for differentiating among promising educational products, the Panel's frame of reference was somewhat broader than the original mission of PROP 1972-1973 and it envisaged a broader field than the product pool it had subjected to comparative review. It also took account of promising products, commercially distributed, which were in competition with some of the products in the PROP pool. The Panel reasoned that justification could be made for applying the dissemination efforts of the NIE to the diffusion of a commercially available product as well as to that of a product coming out of federally funded research and development that had not yet attracted commercial support for distribution. Two possible bases for justification would be the demonstration that the commercial product was superior or that it was good but on the threshold of failure in the marketplace.

Having clarified its decision-making process to the extent described, it remained for the Panel to settle upon the balloting procedure that it would use in recording its distinctions in the form of dissemination recommendations. The decision was to stay with a five-choice ballot, where each point has its own meaning but is not necessarily related to the other points, as on a scale. The points and their ascribed meanings, together with approximate equivalents in the six differentiating categories detailed above, follow.

Decision Points for Panel Balloting	Differentiating Categories for Nominated Products
A. Definitely Recommended (Dollar Support)	1. An ideal product 5. A promising product in trouble in the market place 6. A promising commercial product known to be effective
B. Conditionally Recommended (Dollar Support)	2. A promising product needing more verification support
C. Promising But Not Yet Ready (No Dollar Support)	Hold. A product with some promise but not ready for a dissemination recommendation
D. Action Prior To Dissemination (Dollar Support)	3. A promising product needing independent evaluation 4. A promising product needing further development
F. Definitely Not Recommended (No Dollar Support)	Drop. A product whose promise is not apparent

The mechanics for completion of balloting called for considering initially the products nominated by each of the two subpanels for full Panel review and then for considering other products nominated by individual panelists which had some special appeal to them. As each product was called for consideration by the plenary session chairman, a spokesman from the nominating subpanel or the individual "sponsor" would give a product résumé, citing positive and negative factors briefly, and Panel discussion would flow from that. Once the bases of judgment had been fully aired, the panelists voted by a show of hands.

No attempt was made to gain consensus, but if further discussion in the process of attaching caveats seemed to indicate a central tendency,

convergence was tested. After the conditions and reservations had been clearly stated and the final votes decided for each product, the ballot and its dissemination recommendations were put into the record.

Summary of Panel Selections and Product-Related Actions

Introduction. As noted earlier, the Blue subpanel nominated 17 products from its group as candidates for dissemination-oriented recommendations. One was voted by eight panelists as a "C" (hold for later review) for lack of evidence of success and by two panelists as "F" (judged to be a poor prospect). This product was put into the "hold" category. A second product was voted by nine panelists as an "F" (not recommended), with one panelist abstaining. There was no clear-cut evidence as to verification, no future plans for field testing were discernible, and the product was known to be being successfully marketed. The remaining 15 products nominated by the Blue subpanel received favorable votes, and the full Panel prepared dissemination-oriented recommendations on each one.

In the Green subpanel's product group, eight products were nominated as candidates for full-panel action, and during the plenary session three additional products were "championed" by individual Panel members for whom they held some special appeal. Thus, 11 products in this group were considered in a dissemination-oriented framework. Two were unaminimously voted "C" (hold for later review) by the full Panel. The one case that engendered extended discussion was seen as completely lacking in comparative evaluation despite the existence of a variety of comparable products. Before bringing the product back in, the Panel pleaded, a comparative evaluation, independent of the developer, should be completed to show comparisons between this and several similar products in terms of gain scores. A third product was voted by seven panelists as an "F" (not recommended) and by the remaining three as a "D," with a number of rectifying steps to be required prior to dissemination. Although this product was rejected, a report on the lengthy Panel discussion is here made part of the record for its general value for educational research workers.

Even though there was little if any evidence of cognitive gains in the achievement of stated objectives for the product in question, it was in the area of side effects that the Panel's most serious reservations

occurred. Cultural bias permeated the subject content, and a number of examples of subtle racism were identified in the materials. Illustrations and art work were poorly done and in some instances markedly inappropriate. In retropect, the investment that produced this product was thought to have been a bad one. The minority vote, on the other hand, gave recognition to the fact that the product falls in a curriculum area where few other materials are available, and the interest among those panelists was in salvaging rather than rejecting the product. In this view, weaknesses could be removed, revisions made, and promising materials not available from other sources brought into being.

The remaining eight products nominated by the Green subpanel received favorable votes, and the full Panel, as in the case of the 15 other "winners," prepared dissemination-oriented recommendations on each.

Thus there were 23 products in all on which dissemination recommendations were made by the full Panel. An additional grouping of 25 products was identified to be held for later review. This group was made up of eight judged as "holds" by the Blue subpanel, 14 given that designation by the Green subpanel, plus the three that were dropped down into that category during the plenary Panel session. It is of particular interest to note that an equal number of products from the two major categories came into the final reckoning from each subpanel, as the following table shows:

	From Pool of Blue Subpanel	From Pool of Green Subpanel	Panel Decisions
Dissemination Recommendation	15	8	23
Hold for Later Review	9	16	25
Total	24	24	48

Profile of the Dissemination Recommendation Group. All six NCERD specialty areas represented in the initial pool are represented in the recommended group.

Specialty Area	Number in Initial Pool	Dissemination Recommendations
A. Theory and Knowledge Building for Organizational Change	9	1
B. Planning, Management, and Evaluation Systems	15	10
C. Instructional Personnel Development	15	1
D. Curricular Programs	29	6
E. Culturally-Targeted Curricular Programs	5	1
F. Home-School Intervention in the Early Years	17	4

As to intended populations, two recommended products are targeted to generally disadvantaged learners and two to disadvantaged learners of specified kinds; six are applicable to all learners; 12 are designed to serve adults, including teachers in training; and one is for multiple populations. There are in the group three which have a manual/guide format, one which consists of programmed material, one which is in the form of a game or simulation, and five which take the form primarily of tests or other similar measuring devices. The other 13 are in multiple formats. Three focus on the learning environment; nine focus on learning strategies; five focus on teaching methodologies; the focus of one is organizational efficiency; four focus on administrative techniques; and one is considered to have a multiple focus.

As to academic focus, two recommended products are in the language arts, one is in the performing arts, two are in mathematics, three are in science, one has a career-education orientation, three are multidisciplinary, and the remaining 11 cannot properly be described as having an academic focus. Educational levels are widely dispersed, with two products for preschool-kindergarten use, five for the primary grades (1 through 3), two for senior high school (grades 10 through 12), and seven for the postbaccalaureate level (mostly for the professional development of teachers), with the remaining seven having a multilevel orientation.

Nine of the recommended products had been developed at the regional laboratories for educational research and development, eight had come from university-based research and development centers, four came from other groups affliated with universities, and two, designed for handicapped groups, came from medical research centers.

Appendix B shows the nine-digit alphanumeric product classification categories used in PROP 1972-1973 and the subcategories within each of the information classes. As part of this listing, the number of products in the initial pool of 90, together with the number in the final recommended pool of 23, is shown for each category of each class.

Capsule Dissemination Recommendations. In addition to this report on PROP 1972-1973, there is one which gives the Panel's full dissemination recommendation on each of the 23 exemplary products selected, together with extended nontechnical descriptions of those products. Published under the title Dissemination Recommendations on and Descriptions of Exemplary Products, this document, as in the case of the present one, is expected to be entered into the ERIC system and, in due course, should be available under an ED number.

On the following pages are shown capsule reports in graphic form of the Panel's dissemination recommendations on the 23 exemplary products selected, together with definitions of the symbols used in the graphic displays. For additional details on the products included in the selected

group, or on the dissemination recommendations the Panel made concerning them, the reader is referred to the more complete record in the published volume cited. The form which the dissemination recommendations take in that volume is shown on the following page.

PANEL REVIEW OF PRODUCTS
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No. *PROP–AC* *Code No.*

A	B[1]	C[2]	D[3]	F
Definitely Recommended (Dollar Support)[4]	Conditionally Recommended (Dollar Support)[4]	Promising But Not Yet Ready (No Dollar Support)[4]	Action Prior to Dissemination (Dollar Support)[4]	Definitely Not Recommended (No Dollar Support)[4]

PANEL DISCUSSION

SAMPLE

PANELIST COMMENTS

NOTATION

1 - Condition to be satisfied is indicated in Panel Discussion.
2 - Resubmission in 1974 is suggested.
3 - E = Independent Evaluation or Independent Review of Available Data, T = Field Trials, M = More Development, O = Other Action as Specified.
4 - "Dollar Support" refers to Dissemination Dollars.

Educational Testing Service, Princeton, New Jersey, February 1973

EDUCATIONAL TESTING SERVICE PRINCETON, N.J. 08540

Area Code 609
921 - 9000
CABLE-EDUCTESTSVC

PROP 1972-1973

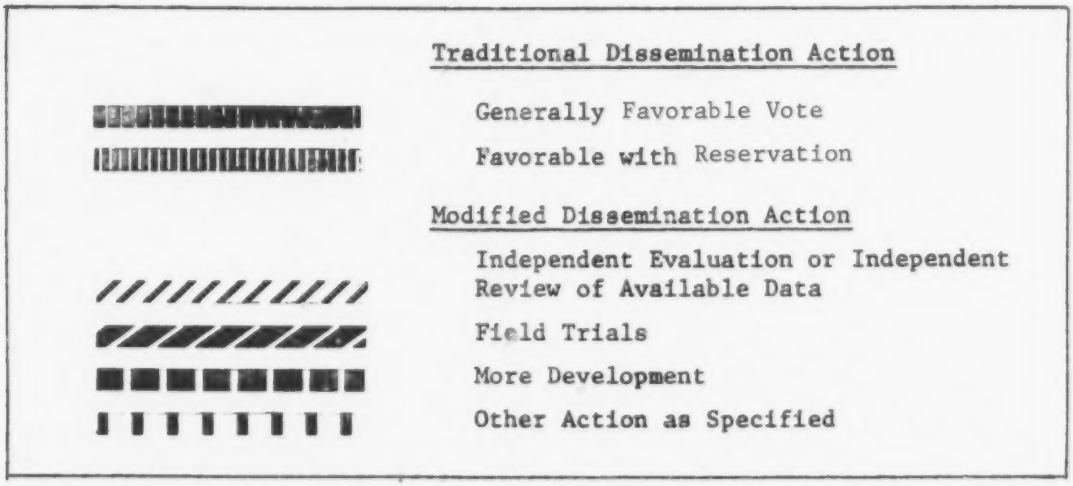
PANEL REVIEW OF PRODUCTS

for the

National Institute of Education

DISSEMINATION RECOMMENDATIONS

The 23 dissemination recommendations graphically displayed on the following pages are in essence the outcome of the 1972-1973 Panel Review of Products. The votes of panelists are shown in the boxes, the ten divisions of each box representing one vote each by each of the ten Panel members. Where fewer than ten of the Panel members voted, either because of absence or abstention, not all divisions are filled. Symbols used have been given the following meanings:



Where more than one of the symbols above was applied to a given product, the vote has been divided appropriately under the relevant headings. Notations on the graphic displays may be decoded by reference to the list shown below.

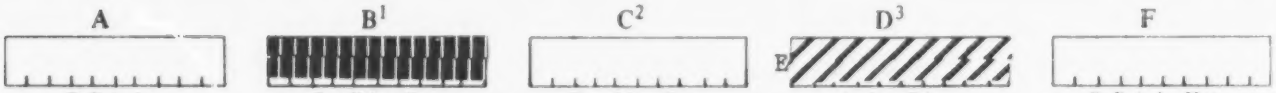
1 - Condition to be satisfied is indicated in Panel Discussion.
2 - Resubmission in 1974 is suggested.
3 - E = Independent Evaluation or Independent Review of Available Data is recommended.
T = Field Trials are recommended.
M = More Development is recommended.
O = Other Action as Specified is recommended.
4 - "Dollar Support" refers to dissemination dollars.

PANEL REVIEW OF PRODUCTS
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No.	*PROP–AC*	*Code No.*
36	44	F-292-12-K02

The Oral Language Program
James L. Olivero, Robert T. Reeback, and Helgi Osterreich
Principal Investigators
Southwestern Cooperative Educational Laboratory

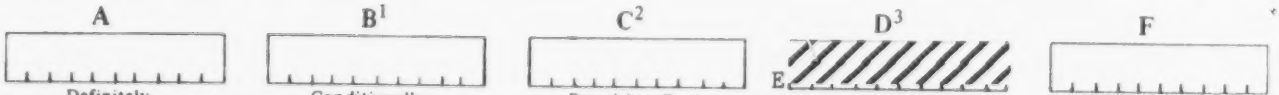


A	B[1]	C[2]	D[3] E	F
Definitely Recommended (Dollar Support)[4]	Conditionally Recommended (Dollar Support)[4]	Promising But Not Yet Ready (No Dollar Support)[4]	Action Prior to Dissemination (Dollar Support)[4]	Definitely Not Recommended (No Dollar Support)[4]

DISSEMINATION RECOMMENDATION

Book No.	*PROP–AC*	*Code No.*
62	59	D-292-62-X02

Social Education, Grades 1-3
Robert Randall, Principal Investigator
Southwest Educational Development Laboratory



A	B[1]	C[2]	D[3] E	F
Definitely Recommended (Dollar Support)[4]	Conditionally Recommended (Dollar Support)[4]	Promising But Not Yet Ready (No Dollar Support)[4]	Action Prior to Dissemination (Dollar Support)[4]	Definitely Not Recommended (No Dollar Support)[4]

PROP 1973

PANEL REVIEW OF PRODUCTS
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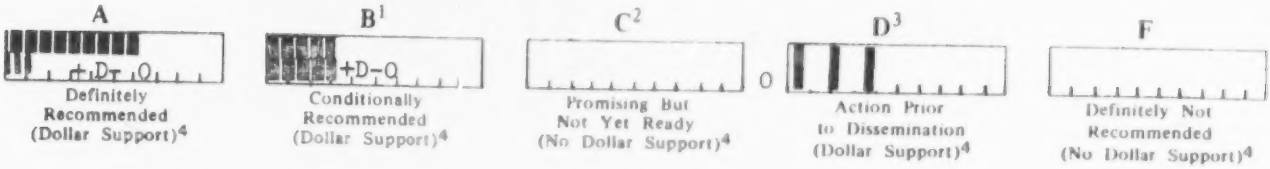
DISSEMINATION RECOMMENDATION

Book No.	*PROP AC*	*Code No.*
89	62	E-692-39-Z$_C$ 01

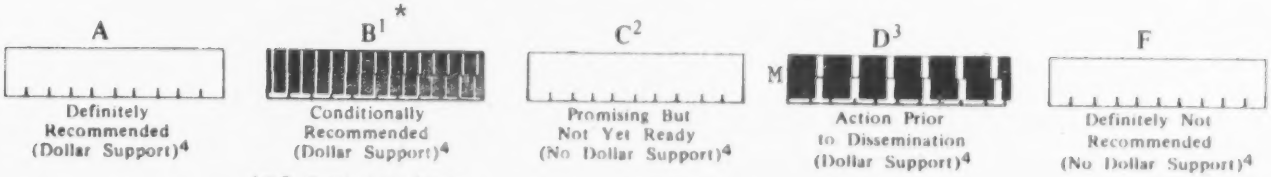
Development of Materials for a One Year Course in African Music
for the General Undergraduate Student
Vada E. Butcher, Principal Investigator
Howard University



DISSEMINATION RECOMMENDATION

Book No.	*PROP AC*	*Code No*
51	68	A-886-08-B01

Instruments and Procedures for Describing Effective Teacher Behavior
Robert C. Wilson, Principal Investigator
University of California (Berkeley)



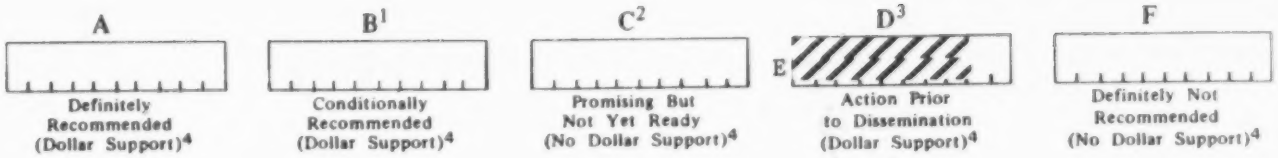
*If D-M is done

PANEL REVIEW OF PRODUCTS
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No.	*PROP–AC*	*Code No*
63	72	D-692-75-Z_d01

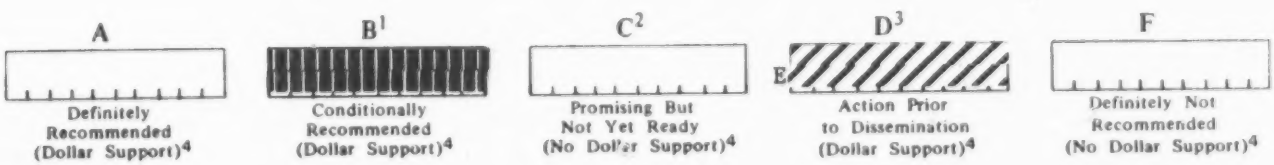
The Cluster Concept Program
Donald Maley, Principal Investigator
University of Maryland



DISSEMINATION RECOMMENDATION

Book No.	*PROP–AC*	*Code No.*
67	80	D-632-49-P01

Individually Prescribed Instruction-Mathematics
Robert Glaser, Principal Investigator
Learning Research and Development Center (LRDC)
University of Pittsburgh

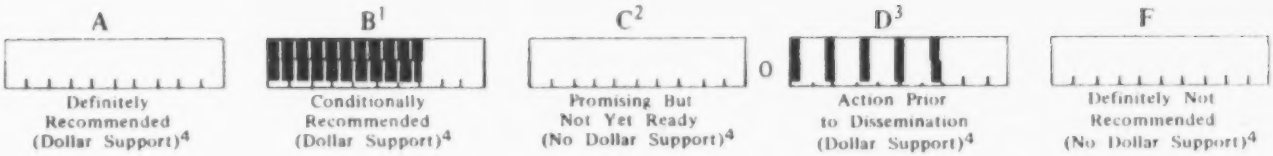


PANEL REVIEW OF PRODUCTS
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No*
41	83	F-992-12-Z$_i$01

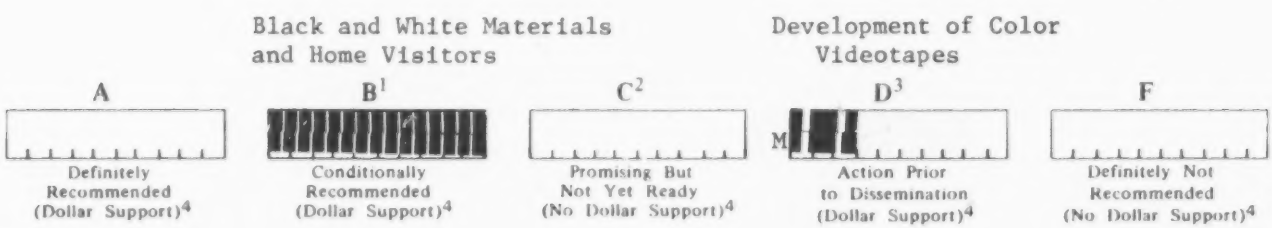
The Sullivan Reading Program
M. W. Sullivan, Principal Investigator
Sullivan Associates



DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No*
43	92	F-691-01-A01

Home-Oriented Childhood Education Program for Rural America
Roy W. Alford, Principal Investigator
Appalachia Educational Laboratory



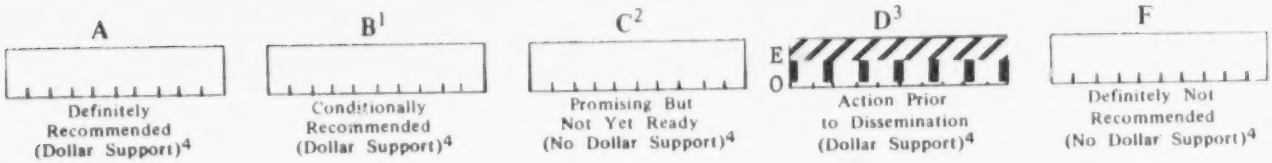
PROP 1973

PANEL REVIEW OF PRODUCTS
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No.	*PROP–AC*	*Code No.*
01	96	B-881-08-U01

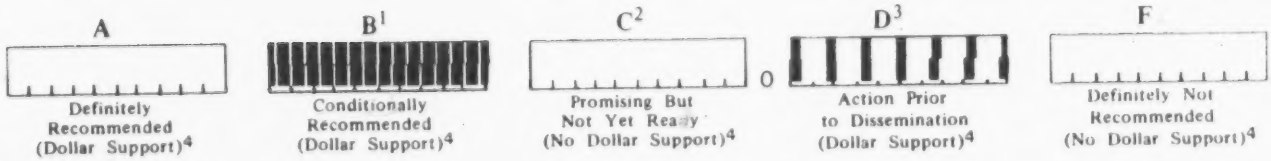
Elementary School Evaluation Kit: Needs Assessment
Ralph Hoepfner, Principal Investigator
Center for the Study of Evaluation



DISSEMINATION RECOMMENDATION

Book No.	*PROP–AC*	*Code No.*
02	110	B-883-01-U04

C3E-ECRC Preschool-Kindergarten Test Evaluations
Ralph Hoepfner, Principal Investigator
Center for the Study of Evaluation

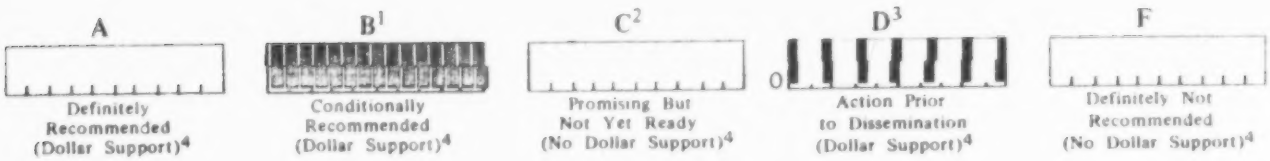


PANEL REVIEW OF PRODUCTS
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
03	111	B-883-92-U05

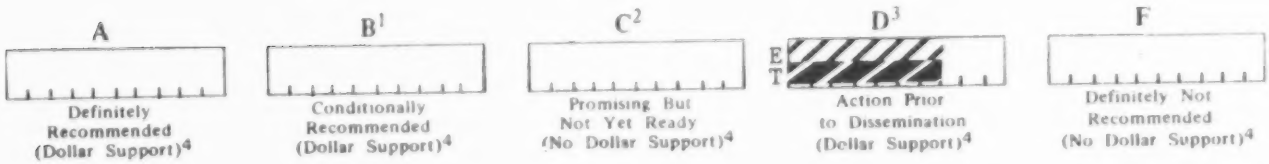
CSE Elementary School Test Evaluations
Guy Strickland, Principal Investigator
Center for the Study of the Evaluation



DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
72	130	D-699-X9-P02

Perceptual Skills Curriculum
Robert Glaser and Jerome Rosner, Principal Investigators
Learning Research and Development Center (LRDC)
University of Pittsburgh

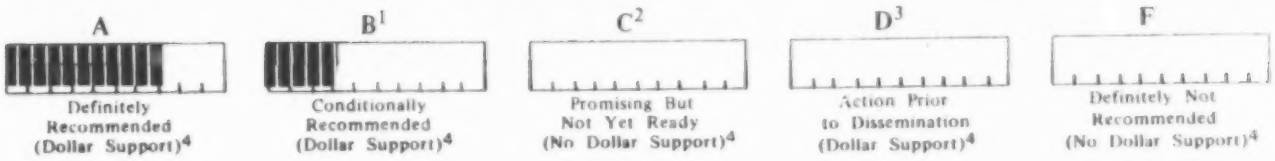


PANEL REVIEW OF PRODUCTS
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
04	136	B-826-08-F03

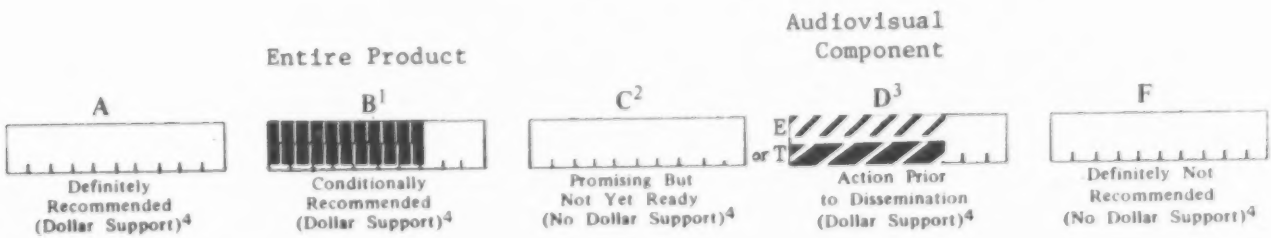
A Sourcebook of Elementary Curricula, Programs, and Products
Samuel N. Henrie, Principal Investigator
Far West Laboratory for Educational Research and Development



DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
05	142	B-895-08-F09

Educational Information Consultant
Wayne Rosenoff, Principal Investigator
Far West Laboratory for Educational Research and Development



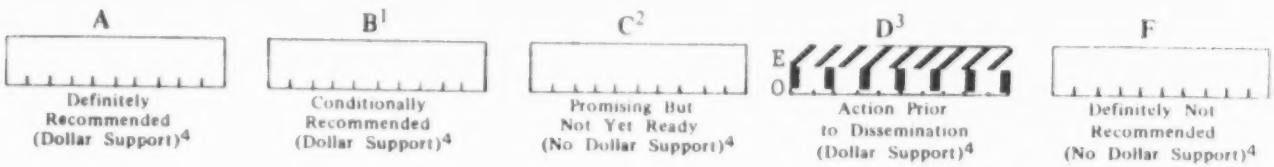
PROP 1973

PANEL REVIEW OF PRODUCTS
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
28	144	C-896-98-F11

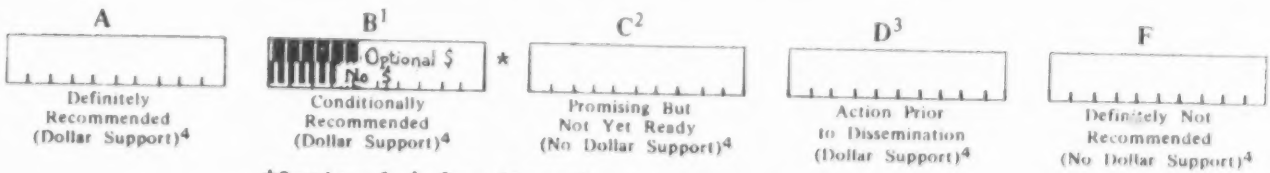
Determining Instructional Purposes
Joyce P. Gall and Charles Lynn Jenks, Principal Investigators
Far West Laboratory for Educational Research and Development



DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
06	145	B-891-09-F12

Early Childhood Information Unit
Stanley Chow, Principal Investigator
Far West Laboratory for Educational Research and Development



*Optional $ for distribution where needed

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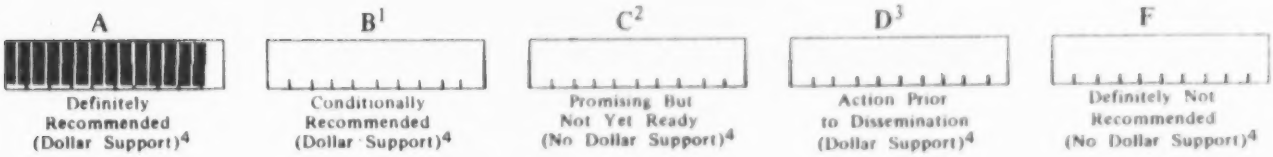
DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
08	147	B-823-65-F14

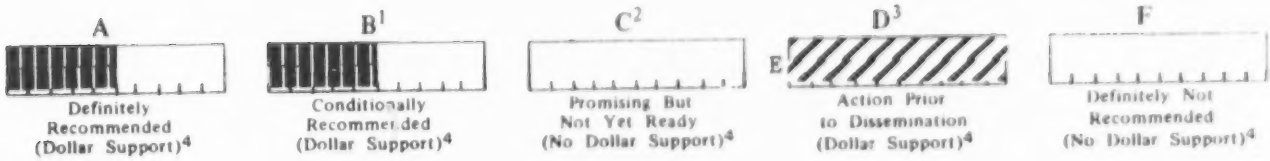
American Government Information Unit
C. L. Hutchins, Principal Investigator
Far West Laboratory for Educational Research and Development



DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
78	163	D-323-99-Z_p01

An Intensive Training Curriculum for Young Educable Mentally Retarded Children
Sheila Ross, Principal Investigator
Palo Alto Medical Research Foundation



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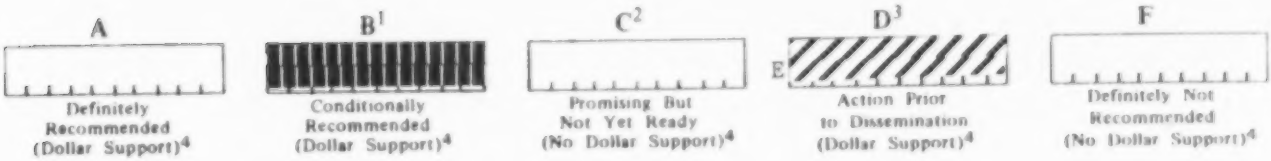
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
12	170	B-896-08-R06

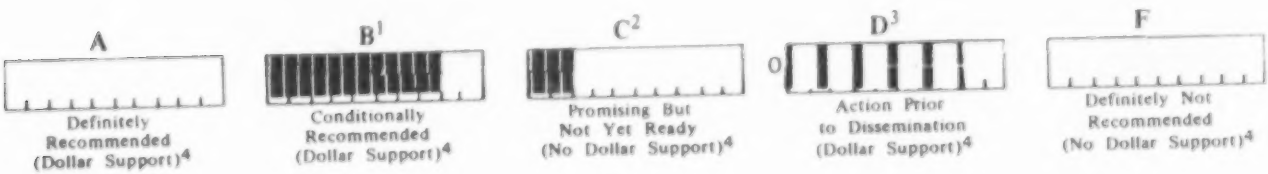
Project Management II: Basic Principles and Techniques of Project Management
C. Peter Cummings, Principal Investigator
Research for Better Schools, Inc.



DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
13	172	B-883-X9-U06

CSE/HLP:Higher-order Cognitive, Affective, and Interpersonal Skills
Test Evaluations
Ralph Hoepfner, Principal Investigator
Center for the Study of Evaluation

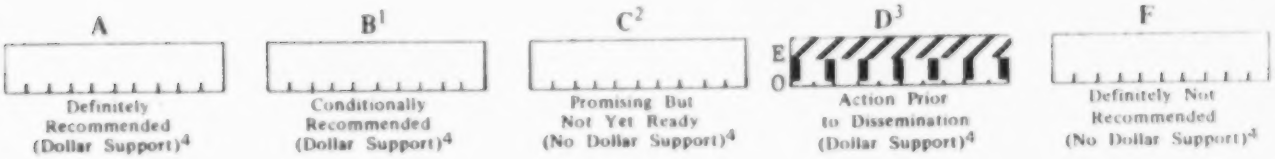


PANEL REVIEW OF PRODUCTS
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
14	173	B-892-X8-U07

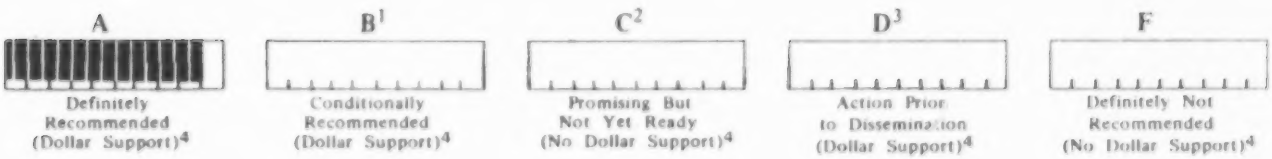
Evaluation Workshop I: An Orientation
Stephen P. Klein, Principal Investigator
Center for the Study of the Evaluation



DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
48	182	F-372-42-Z_t 01

Pacemaker Games Program
Dorothea M. Ross, Principal Investigator
San Francisco Medical Center



PROP 1973

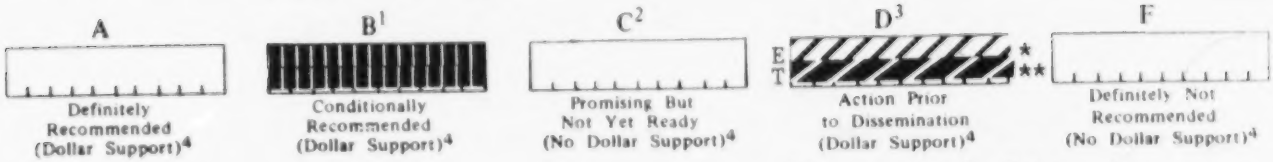
PANEL REVIEW OF PRODUCTS
for the
National Institute of Education

DISSEMINATION RECOMMENDATION

Book No.	*PROP-AC*	*Code No.*
86	187	D-692-69-Z$_J$02

Geography Curriculum Project
Marion J. Rice, Principal Investigator
University of Georgia

Earth: Man's Home



*Earth: Man's Home
**Other components

Recommendations for Future Dissemination-Focused Evaluation

Introduction. In some of the earlier parts of this report, modest efforts are made to apply evaluation measures to PROP--to ascertain how well it worked and what might be done to improve similar projects in the future. Here these and other indicators of success or failure and the judgments they have elicited in the direction of seeking improvements in educational product evaluation processes in the future are enumerated.

This section is directed to NIE staff members and others who find themselves with the task of planning for or devising the details of a project designed to compare and judge educational materials through application of evaluative techniques. As an integrated statement of what might be done to refine panel reviews of educational products in subsequent years, the discussion may serve just as effectively as an indicator of the "state of the art" of comparative evaluation, circa 1973. Recommendations for minor modifications, subtle refinements, and more major changes reflect comments that have come from developers in the field as they worked with the ETS staff in assembling information on products, members of the Panel during their meetings and thereafter, and members of the ETS supporting staff throughout the duration of the project.

The fact that a number of recommendations for significant changes are made should not be construed as evidence of Panel or other participant dissatisfaction with the PROP mission or with the assistance the Panel received from supporting staff members. Rather, the two years of experience gained; the similarities and differences between PEP and PROP; the interactions among developers, staff, and Panel; and the insights gained through repeated exposure to the dynamics of developmental-product-oriented educational research have afforded an excellent opportunity for stock taking, looking toward the ultimate strengthening of this process, which still can be regarded as being in its infancy.

On Appointment of a Panel. The criterion for composition of future panels would be to match or excel the ones which functioned in 1971 and 1973. They both were models of effectiveness, sage and sophisticated, yet compatible in their contentiousness and compassionate in their criticism. The black viewpoint was exceptionally effectively represented as was that of women, the establishment, the schoolman, the publisher, the college professor, the classroom teacher, and any number of other special-interest groups. In the future, membership should also encompass the Mexican-American and Puerto-Rican viewpoints, as well as those of other ethnic minorities.

Use of the PROP 1972-1973 model makes panel size a function of the size of the product pool. A five-member subpanel seems to be the optimum size for a task force to complete initial product review, and two two-day meetings seem to be as much as a function such as this can be expected to encroach upon a busy calendar. A subpanel of this size can reasonably be expected to complete initial screening of 35 to 40 educational products using PROP-like procedures. It would be efficacious to increase overall panel size in multiples of five as products are added to the initial pool in multiples of 40. The outside limit for a ten-member panel, then, would be 80 products and for a 15-member panel, 120.

Another alternative to handling the "case load" (deviating somewhat from the 1972-1973 model) would be for panel members to complete a substantial amount of their individual product reviewing before the first panel meeting. This plan is more fully described at the end of this section. In terms of implications for the panel, though, the alternative would call for provision for about four days of product review at home in addition to the four days spent in meetings, plus whatever travel time is required. Using such an option, a ten-person panel should be able to handle a load of 100-120 products reasonably well.

An additional alternative would be to move to a panel of 12 and subpanels of four members each, with other features of the 1972-1973 PROP model unchanged. Although less than optimum, such a plan would have put

the 1972-1973 task of reviewing 90 products in four meeting days within the bounds of reason and comfor--and probably would have completely dissolved the pressures felt by some of the PROP panelists.

On Composition of the Pool. The goal of future comparative evaluations of products may have to be modified, since it is highly unlikely that at any given point in time there will be a substantial number of promising educational products just at the stage where they have been thoroughly developed and validated and still are not yet being widely disseminated. A future panel might well have the mission of recommending a group of finished products for dissemination funding and also of identifying products at various late stages of development which appear to be promising and suggesting a variety of courses of action for them, including expending funds for further field trials or validation; for independent evaluations of the products themselves or of available data on them; or even for further development. For products which are already at an advanced and marketable stage, a panel might elect to recommend dissemination funding where successful distribution seems unlikely without such help. Even for successful products already being widely disseminated, a panel might see opportunities where additional funds might make it possible for distribution to be broadened into one or more unreached niches, such as geographically remote parts of the country or special target populations.

Another variable in composing a pool is how far afield from centers of educational research and development one should go in search of products to include. A case can certainly be made for drawing upon products from any source whatever, as long as an irrefutable case can be made that the products serve to enhance and improve education in the nation's schools. In this case, a wider net should be cast to ensure that worthy products available from a variety of sources are identified and subjected to comparative evaluation.

The suggested variations in objectives for panel reviews of products would require compatible variations in the way the product pools are put

together. Product developers should be advised of the specifics of the mission at the time of product submission so that they would be enabled to nominate products most likely to be found to be in alignment with the direction a particular panel review was designed to take.

Since one of the most significant factors contributing to the time pressures on 1972-1973 panelists and staff can be traced to delay in establishing the criteria by which products initially were to be included or excluded, there is a clear need for the NIE's setting well in advance the ground rules to be applied. Ideally, composition of a product pool would be an ongoing NIE activity, and the pool for a given comparative evaluation would already be in existence at its outset.

On Organization of Information. It is not sufficient to rely on information provided primarily by product developers in attempting to evaluate their products. Although developers may be able to supply data or cite studies which appear to provide strong evidence as to the effectiveness of their products, there is no guarantee that these same developers, anxious as they are to promote their own products, will also supply any available information which offers evidence which might be interpreted as negative. Partial rectification of this condition would result from heavier use than at present of the field trial as a mode for testing and producing evidence of success. NIE should probably seek to lay greater stress on the need for independent evaluation and validation of educational products and for heavy dependence upon such verification data in dissemination-focused evaluation.

Whether verification is done in the dependent or independent mode, it is not enough to provide evidence merely as to the level of statistical significance of gains on test scores made by experimental, as opposed to control, groups. The magnitude of the absolute gains made must be cited if the educational significance of the gains is to be evaluated intelligently. Substantial absolute gains are solid evidence of educational significance. Statistical significance alone may communicate very little indeed about educational effectiveness.

Products were organized into two groupings for subpanel review during PROP 1972-1973 by first clustering products according to NCERD specialty areas and then grouping clusters into two approximately equal halves. One consequence of this method of organizing the Panel's work was that all curriculum developments, most with expansive documentation and extensive materials, were assigned to the same subpanel. The work load imposed by that arrangement stimulated a suggested alternative that would call for putting products to be reviewed in clusters of varying size according to relative complexity, with the most complex products making up a small cluster, relatively simple developments clustered into a larger group, and products falling somewhere between assigned to a medium-size cluster. This pattern should assure a more equal distribution of work load.

On Orientation of the Panel. In future years, it is imperative that the panel be kept fully informed as to the procedures being followed during a formal review of educational products. Although the PROP panelists received copies of the PEP reports, they were not fully cognizant of all the staff support functions being carried out prior to their first meeting. First-time PROP panelists felt that their job would have been made easier had they had fuller knowledge of the procedures being followed, as, for example, the submission of product precis to product developers for approval prior to the first Panel meeting.

On Establishing Criteria. PROP 1972-1973 led to the Panel's development of a tenth revision of the PEP Evaluation Worksheet and to the evolution of a fourth statement on selection criteria. Needless to say, each successive draft was felt by the Panel to be a significant improvement, functionally at least, over the previous one. It may be that the formulation of criteria and the capsule criterion statement on the worksheet form will be found to be sufficiently well honed at this point to serve similar purposes in the near future without further significant modification. Those that have been involved in the use of these instruments have a reasonable degree of confidence that such will be found to be the case, at least until such time as, for example, a goal-free evaluation model might be tried in dissemination-focused product evaluation.

The 1972-1973 experience confirmed the finding of 1971 that it is highly unlikely that curriculum materials per se will emerge as exemplary when evaluated in a broad context which includes a wide variety of other, frequently highly innovative, educational materials. This limitation in a PROP-type activity might be rectified by the development of a special criterion base tailored especially to curriculum materials and by the application of the special criteria in a separate review process. A special set of selection rules should be applied and earmarked dissemination funds should be set aside for curriculum products. Otherwise it is improbable that sorely needed curricular innovations which continue to require encouragement will emerge as recommendations from a panel review process.

On Panel Review and Selection Procedures. Whatever procedures are used for initial screening and review of educational products in a PROP-like process, plenary panel action for final decisions is essential. Both the 1971 and 1973 panels leaned heavily on the "committee of the whole" as the optimum body to pool judgments and convert collected wisdom into selection-oriented decisions. Perhaps the strongest recommendation to be made here, then, is to continue the emphasis on plenary panel action as the irreducible minimum for the final stages of product selection. With this constraint, another essential component is complete freedom of the full panel to settle upon its own decision rules and upon their application. Advance staff work which involves assumptions as to the panel's probable approach, essential as it is, may prove to be counterproductive and may involve some waste of time.

When the panelists meet as a committee of the whole, they take on a new mission--to join forces, acting more or less as a contest jury, looking at the whole spectrum of evidence, positive and negative, considering what the record shows and what other panelists have learned, comparing a given product with competitors, evolving out of this a joint judgment or a set of disparate judgments, and finally making the transition from collective evaluation to mission-focused decision. There are an

infinite number of ways to achieve this and, as experience has shown, a panel of the caliber of the PROP group will undoubtedly reach its own decisions as to how it will move from the preliminary steps to the final, culminating, decisive action.

While a substantial amount of advance planning and procedural structuring seems ill-advised for the final actions of a full panel, the opposite seems to be the case for the initial stages of a panel's work. Both effectiveness and efficiency are gained through thorough planning and structuring of procedures for the early stages of product review.

Two steps will make it feasible to move a future PROP-type activity quickly to the initial product-screening stage: agreement on a subpanel mode for initial product review, on subpanel size, and on acceptance of a specific evaluation worksheet for use in the early stages of work. These agreements would clear the way for the product review process to proceed with dispatch, even without a meeting at the outset. The first pass through an assigned pool of products could be made by the panelists individually at their homes. Under such a plan, the following procedures could apply:

1. Panelists would be sent evaluation worksheets, details on the meaning of the entries, and a group of product precis assigned to each panelist's subpanel.

2. Each panelist would rate his group of products at home over a one-month period, sending his or her evaluation worksheets, complete with overall ratings, in for summarization.

3. At the first meeting, each subpanel, with summaries in hand, would discuss its products with care, would refer to product dossiers as necessary, and would reach conclusions and draw up recommendations as to the kinds of dissemination-oriented action that seem appropriate on a product-by-product basis (the subpanel would also pinpoint, in those cases where additional information might be needed, what new data should be sought).

4. In the two-month period between meetings, subpanel members would review and rate the products of a counterpart subpanel and staff members

would do further in-depth study on products on which information had been requested.

5. The first day of the second meeting would be devoted to subpanel sessions for individual review of newly assembled information and refresher reviews by the group, product-by-product, of its own earlier conclusions and recommendations (subpanels at this point would not discuss products recommended by the other subpanel).

These preliminaries would yield a body of information, conclusions, and recommendations for the full panel to then consider and decide upon. With a clear statement of mission and the preliminary judgments by the constituent subpanels before it, the panel could in its plenary session readily reach consensus on steps to take in moving toward final decisions in fulfillment of its objectives and proceed to implement its plan.

A possible ten-month timetable for the suggested review process is shown below.

July 1	Ground rules for product inclusion established; contract let
Aug. 15	Pool fully established; dossier materials requested
Nov. 1	Precis completed and sent to subpanels
Dec. 1	Subpanelists' evaluation worksheets with ratings returned
Mid-Dec.	First panel meeting
Mid-Feb.	Second panel meeting
May 1	Reporting completed

Although there are numerous alternatives for panel review and selection procedures, including those suggested elsewhere in this report, the foregoing discussion constitutes a carefully thought-out recommendation for the next effort to accomplish a dissemination-focused educational product evaluation.

On Feedback to Product Developers and to the NIE. A formalized mechanism should be developed whereby panelist comments and Panel ratings can be routinely directed to those people who can most profit from them, notably the product developers. It is essential that such feedback also

be communicated routinely to all concerned branches of the federal government. A system should be devised for identifying specific pieces of information or queries which should become part of the feedback effort.

Implementation of the recommendations made here should lead to an evaluation process that is likely to be of maximum use to the NIE, to the schools, and to the public both the NIE and the schools are designed to serve. However, any future panel would have to work very hard indeed to equal the 1972-1973 PROP Panel in conscientiousness and in effective and efficient accomplishments.

ETS

February 5, 1973
90 Products

Project to Evaluate Educational Products
Official Product Pool

		Code No.
PROP-AC09	Economic Analysis (Multi-Media Economics Curriculum Development Project) Edmund W. Fitzpatrick, Principal Investigator Educational Technology Center	D-692-67-Z_a01
PROP-AC23	Unified Mathematics (Unified Mathematics Program) Howard F. Fehr, Principal Investigator Columbia Teachers College	D-592-49-Z_b01
PROP-AC26	Performance Objectives Package James L. Olivero and Carmen R. Timiraos, Principal Investigators Southwestern Cooperative Educational Laboratory	F-893-98-K01
PROP-AC27	Language Backgrounds (Backgrounds in Language) Barbara K. Long, Principal Investigator Central Midwestern Regional Educational Laboratory	F-893-19-C01
PROP-AC36	English Dialects (Dialects and Dialect Learning -- An English Inservice Program) Karen Matison Hess, Principal Investigator Central Midwestern Regional Educational Laboratory	F-893-17-C02
PROP-AC37	Standard English (Learning a Standard English) Charles A. Findley and Karen Matison Hess, Principal Investigators Central Midwestern Regional Educational Laboratory	F-224-18-C03

APPENDIX A

		Code No.
PROP-AC44	Oral Language (The Oral Language Program) James L. Olivero, Robert T. Reeback, and Helgi Osterreich Principal Investigators Southwestern Cooperative Educational Laboratory	F-292-12-K02
PROP-AC45	Reinforced Readiness (Reinforced Readiness Requisites Program) James L. Olivero and Madeleine Speiss, Principal Investigators Southwestern Cooperative Educational Laboratory	F-292-19-K03
PROP-AC46	English As A Second Language James L. Olivero and Carmen R. Timiraos, Principal Investigators Southwestern Cooperative Educational Laboratory	F-893-18-K04
PROP-AC58	Bilingual Early Childhood (Sequential Program for Ages 3,4, and 5) Shari Nedler, Principal Investigator Southwest Educational Development Laboratory	F-292-X1-X01
PROP-AC59	Social Education (Social Education, Grades 1-3) Robert Randall, Principal Investigator Southwest Educational Development Laboratory	D-292-62-X02
PROP-AC61	Biology Topics (Exploration in Biology Topics -- Inquiry Skills Program) Eugenia M. Koos, Principal Investigator Mid-Continent Regional Educational Laboratory	C-992-59-M01
PROP-AC62	African Music (Development of Materials for a One Year Course in African Music for the General Undergraduate Student) Vada E. Butcher, Principal Investigator Howard University	E-692-39-Z$_c$01

		Code No.
PROP-AC68	Effective Teacher Behavior (Instruments and Procedures for Describing Effective Teacher Behavior) Robert C. Wilson, Principal Investigator University of California (Berkeley)	A-886-08-B01
PROP-AC72	Cluster Concept (The Cluster Concept Program) Donald Maley, Principal Investigator University of Maryland	D-692-75-Z_d01
PROP-AC73	Creative Drug Education (The Creative Learning Group Drug Education Program) Lawrence McKinney, Principal Investigator The Creative Learning Group	D-692-X9-Z_e01
PROP-AC74	Developmental Economics (DEEP) (Developmental Economic Education Program) M. L. Frankel, Principal Investigator Joint Council on Economic Education	D-693-69-Z_f01
PROP-AC76	Hawaii English (Hawaii English Program) Arthur R. King and W. G. Savard, Principal Investigators University of Hawaii	D-692-19-Z_g01
PROP-AC79	Perceptual Motor Development (The Frostig Program for Perceptual Motor Development) Marianne Frostig, Principal Investigator Marianne Frostig Center of Educational Therapy	F-699-X9-Z_h01
PROP-AC80	Prescribed Mathematics (Individually Prescribed Instruction-Mathematics) Robert Glaser, Principal Investigator University of Pittsburgh	D-632-49-P01

		Code No.
PROP-AC83	Sullivan Reading (The Sullivan Reading Program) M. W. Sullivan, Principal Investigator Sullivan Associates	F-992-12-Z$_i$01
PROP-AC85	Anthropology Curriculum (Anthropology Curriculum Project) Marion J. Rice, Principal Investigator University of Georgia	D-693-69-Z$_j$01
PROP-AC86	Basic Adult Education (New Approach to Adult Basic Education) James Wilson, Principal Investigator Southwestern Cooperative Educational Laboratory	F-293-1X-K05
PROP-AC87	Elements of Math (CSMP Elements of Mathematics Series) Burt Kaufman, Principal Investigator Central Midwestern Regional Educational Laboratory	D-512-49-C06
PROP-AC92	Home Oriented Rural Education (Home Oriented Childhood Education Program for Rural America) Roy Alford, Principal Investigator Appalachia Educational Laboratory	F-691-01-A01
PROP-AC95	Minnesota Math-Science (The Minnesota Math and Science Teaching Project) Alan Humphreys, Principal Investigator University of Minnesota	D-612-99-Z$_k$01
PROP-AC96	Needs Assessment Kit (Elementary School Evaluation KIT: Needs Assessment) Ralph Hoepfner, Principal Investigator University of California (Los Angeles)	B-881-08-U01

		Code No.
PROP-AC98	Patterns in Arithmetic Henry Van Engen, Principal Investigator Wisconsin Research and Development Center for Cognitive Learning	D-699-49-W02
PROP-AC103	Simulation Games--Journal (Simulation and Games: An International Journal of Theory, Research, & Design) James S. Coleman and Keith J. Edwards, Principal Investigators Center for the Study of Social Organization of Schools and the Learning Process (Johns Hopkins)	A-8XX-68-J03
PROP-AC104	Simulation Games--Bibliography (Selected Bibliography for Simulation Games) Steven J. Kidder, Principal Investigator Center for the Study of Social Organization of Schools and the Learning Process (Johns Hopkins)	A-8XX-6X-J04
PROP-AC107	Trade and Development (Trade and Development: A Game of Economic Geography) Samuel A. Livingston, Principal Investigator Center for the Study of Social Organization of Schools and the Learning Process (Johns Hopkins)	A-672-69-J05
PROP-AC110	Preschool Tests (PKTE) (CSE-ECRC Preschool-Kindergarten Test Evaluations) Ralph Hoepfner, Principal Investigator Center for the Study of Evaluation	B-883-01-U04
PROP-AC111	Elementary Tests (ESTE) (CSE Elementary School Test Evaluations) Guy Strickland, Principal Investigator Center for the Study of Evaluation	B-883-92-U05

		Code No.
PROP-AC113	Classroom Observation Systems (Teacher Child Dyadic Interaction System, Classroom Observation Scales, FAIR System, IAST v.2) Jere Brophy, Edmund Emmer, Francis Fuller and Gene Hall, Principal Investigators Research and Development Center for Teacher Education (University of Texas)	C-883-X8-T04
PROP-AC116	Teaching Behavior (ATB) (Instructional Module: Analysis of Teaching Behavior) Gene Hall, Principal Investigator Research and Development Center for Teacher Education (University of Texas)	C-893-98-T07
PROP-AC117	Electrical Circuits (Electrical Circuits and Personalized Videotape Feedback) Gene Hall and Beulah Newlove, Principal Investigators Research and Development Center for Teacher Education (University of Texas)	C-823-59-T08
PROP-AC118	Early Brief Teaching (EBT) (The Fifteen Minute Hour: Early Brief Teaching) Beulah Newlove and Francis Fuller, Principal Investigators Research and Development Center for Teacher Education (University of Texas)	C-824-X7-T09
PROP-AC119	Basic Teaching (Basic Teaching Tasks: A Teaching Laboratory Manual for Beginning Teacher Candidates) O. L. Davis, Principal Investigator Research and Development Center for Teacher Education (University of Texas)	C-821-08-T10

		Code No.
PROP-AC120	Personalized Teacher Education (PTE) (An Introduction to Personalized Education for Teacher Educators) Francis Fuller and Beulah Newlove, Principal Investigators Research and Development Center for Teacher Education (University of Texas)	C-825-X8-T11
PROP-AC130	Perceptual Skills Curriculum Robert Glaser and Jerome Rosner, Principal Investigators Learning Research and Development Center (LRDC) University of Pittsburgh	D-699-X9-P02
PROP-AC133	Bilingual Language (Bilingual -- Spanish/English -- Oral Language Development Program,Grade 2) James H. Perry, Principal Investigator Southwest Educational Development Laboratory	E-292-12-X03
PROP-AC134	Intergroup Relations Curriculum (The Intergroup Relations Curriculum: A Program for Elementary School Education) John S. Gibson, Principal Investigator Lincoln Filene Center for Citizenship and Public Affairs (Tufts University)	E-622-63-$Z_1$02
PROP-AC135	Project AFIRE (Project AFIRE -- Arts for Intergroup Relations Education Jon Kaiser, Principal Investigator Lincoln Filene Center for Citizenship and Public Affairs (Tufts University)	E-693-99-$Z_1$03
PROP-AC136	Sourcebook of Elementary Curricula (A Sourcebook of Elementary Curricula, Programs and Products) Samuel N. Henrie, Principal Investigator Far West Laboratory for Educational Research and Development	B-826-08-F03

		Code No.
PROP-AC137	Controversial Issues (Discussing Controversial Issues) Meredith Gall, Principal Investigator Far West Laboratory for Educational Research and Development	C-999-99-F04
PROP-AC139	Content Analysis (Content Analysis of Textbooks) Henry Banks, Principal Investigator Far West Laboratory for Educational Research and Development	C-893-98-F06
PROP-AC140	Group Process (Protocols on Group Process) Dave Berliner, Principal Investigator Far West Laboratory for Educational Research and Development	A-893-67-F07
PROP-AC141	Inservice Teacher Training for Responsive Program (Inservice Teacher Training in the Use of the Responsive Program) Glen Nimnicht, Principal Investigator Far West Laboratory for Educational Research and Development	C-893-X8-F08
PROP-AC142	Information Consultant (Educational Information Consultant) Wayne Rosenoff, Principal Investigator Far West Laboratory for Educational Research and Development	B-895-08-F09
PROP-AC143	Learning Booth Glen Nimnicht, Principal Investigator Far West Laboratory for Educational Research and Development	C-6X1-19-F10
PROP-AC144	Instructional Purposes (Determining Instructional Purposes) Joyce P. Gall and Charles Lynn Jenks, Principal Investigators Far West Laboratory for Educational Research and Development	C-896-98-F11

		Code No.
PROP-AC145	Early Childhood Information (Early Childhood Information Unit) Stanley Chow, Principal Investigator Far West Laboratory for Educational Research and Development	B-891-09-F12
PROP-AC146	Drug Education Information (Drug Education Information Unit) Stanley Chow, Principal Investigator Far West Laboratory for Educational Research and Development	B-826-X8-F13
PROP-AC147	American Government Information (American Government Information Unit) C. L. Hutchins, Principal Investigator Far West Laboratory for Educational Research and Development	B-823-65-F14
PROP-AC149	Individually Guided Motivation Herbert Klausmeier, Principal Investigator Wisconsin Research and Development Center for Cognitive Learning	B-697-19-W04
PROP-AC150	Wisconsin Reading (Wisconsin Design for Reading Skill Development: Study Skills) Wayne Otto, Principal Investigator Wisconsin Research and Development Center for Cognitive Learning	D-691-19-W05
PROP-AC151	Prereading Skills (Prereading Skills Program) Richard Venezky, Principal Investigator Wisconsin Research and Development Center for Cognitive Learning	D-392-11-W06
PROP-AC152	Kindergarten -- Primary Math (Developing Mathematical Processes: Kindergarten -- Primary, Packages 1-5) Thomas Romberg and John Harvey, Principal Investigators Wisconsin Research and Development Center for Cognitive Learning	D-692-49-W07

		Code No.
PROP-AC153	Faculty Characteristics (Faculty Characteristics Questionnaire) Robert C. Wilson, Principal Investigator Center for Research and Development in Higher Education (University of California)	A-886-08-B02
PROP-AC154	Counselling Inventory [(Counselling Inventory for "New" (disadvantaged) Students (diagnostic scales)] E. Klingelhofer, Principal Investigator Center for Research and Development in Higher Education (University of California)	A-187-07-B03
PROP-AC155	Coordinating Higher Education (Coordinating Higher Education for the 70's: Guidelines for Practice) L. Glenny, et al., Principal Investigators Center for Research and Development in Higher Education (University of California)	A-826-08-B04
PROP-AC156	Planning for Self-Renewal (Planning for Self-Renewal: A New Approach to Planned Organizational Change) E. Palola, Principal Investigator Center for Research and Development in Higher Education (University of California)	A-825-08-B05
PROP-AC157	Lesson Planning (Systems Approach to Lesson Planning) James L. Olivero and Carmen R. Timiraos, Principal Investigators Southwestern Cooperative Educational Laboratory, Inc.	F-894-08-K06
PROP-AC158	Project Life Materials Glen Pfau, Principal Investigator National Education Association	D-292-19-Z_m01

		Code No.
PROP-AC159	Teacher Training Films (Deaf-Retarded) Murdock Head, Principal Investigator George Washington University Medical Center	C-343-09-Z_n01
PROP-AC161	Life Science Materials (Retarded) William Mayer, Principal Investigator BSCS -- University of Colorado	D-392-59-Z_o01
PROP-AC163	An Intensive Training Curriculum for the Education of Young Educable Mentally Retarded (EMR) Children, Part I Sheila Ross, Principal Investigator Palo Alto Medical Research Foundation	D-323-99-Z_p01
PROP-AC164	Hair Rolling Program James Lent, Principal Investigator Parsons State Hospital and Training Center Bureau of Child Research	D-323-XO-Z_q01
PROP-AC165	Optacon John Linvill, Principal Investigator Stanford University -- Department of Electrical Engineering	D-25X-00-Z_r01
PROP-AC166	Individualized Adult Learning (Individualizing Learning for Adults) Louis Maguire, Principal Investigator Research for Better Schools, Inc.	D-892-94-R02
PROP-AC167	Achievement Competency Training Russell A. Hill Research for Better Schools, Inc.	D-692-93-R03

		Code No.
PROP-AC168	Curriculum Planning (Curriculum Planning Starter Kit) Michael Marvin, Principal Investigator Research for Better Schools, Inc.	B-823-98-R04
PROP-AC169	Project Management I (Project Management I: Executive Orientation) C. Peter Cummings, Principal Investigator Research for Better Schools, Inc.	B-896-08-R05
PROP-AC170	Project Management II (Project Management II: Basic Skills and and Technology of Project Management) C. Peter Cummings, Principal Investigator Research for Better Schools, Inc.	B-896-08-R06
PROP-AC171	New Reading System (New Primary Grades Reading System) Robert Glaser and Isabel Beck, Principal Investigators Learning Research and Development Center (University of Pittsburgh)	F-299-12-P03
PROP-AC172	Higher-order Test Evaluations (Higher-order Cognitive, Affective, and Interpersonal Skills Test Evaluations) Ralph Hoepfner, Principal Investigator Center for the Study of Evaluation	B-883-X9-U06
PROP-AC173	Evaluation Workshops (Evaluation Workshop I: An Orientation) Stephen P. Klein, Principal Investigator Center for the Study of Evaluation	B-892-X8-U07
PROP-AC175	Targeted Communications Karen M. Hess, Principal Investigator Central Midwestern Regional Laboratory	F-8X3-18-C07

		Code No.
PROP-AC176	AEP Products Stanley Medeja, Principal Investigator Central Medwestern Regional Laboratory	D-692-39-C08
PROP-AC177	Language and Thinking (Language and Thinking New Directions) Level A Harriet Doss Willis, Principal Investigator Central Midwestern Regional Laboratory	F-292-92-C09
PROP-AC178	Individualizing Instruction (Individualizing Instruction and Guaranteeing Learning) Edmund W. Fitzpatrick, Principal Investigator Educational Technology Center of Sterling Institute, Inc.	B-823-68-Z_a02
PROP-AC179	Adapting Science (Adapting Science Materials for the Blind (ASMB) Herbert D. Thier, Principal Investigator Lawrence Hall of Science, University of California	D-292-59-Z_s01
PROP-AC180	CLG Water Pollution (CLG Water Pollution Test Kits) Lawrence McKinney, Principal Investigator The Creative Learning Group, Media Engineering Corporation	D-692-55-Z_e02
PROP-AC182	Pacemaker Games Program Dorothea M. Ross, Principal Investigator San Francisco Medical Center	F-372-42-Z_t01
PROP-AC184	Consultation for Personalization in the Public Schools Principal Investigator, Ruth Haak Research and Development Center for Teacher Education (University of Texas at Austin)	C-827-08-T12

		Code No.
PROP-AC185	Student Evaluation of Teacher Instrument II Ruth Haak, Douglas Kleiber and Robert F. Peck, Principal Investigators Research and Development Center for Teacher Education (University of Texas at Austin)	C-687-09-T13
PROP-AC186	Bilingual Kindergarten Shari Nedler, Principal Investigator Southwest Educational Development Laboratory	E-292-91-X04
PROP-AC187	Geography Curriculum Project Marion J. Rice, Principal Investigator University of Georgia	D-692-69-Z 02
PROP-AC189	Individualized Science Robert Glaser and Leopold Klopfer, Principal Investigators Learning Research and Development Center University of Pittsburgh	D-692-59-P03
PROP-AC190	Color Keys to Reading Robert Glaser, Principal Investigator Learning Research and Development Center University of Pittsburgh	D-692-12-P04

Panel Review of Products

PROP 1972-1973

Product Classification Categories

NCERD Specialty Areas	L-000-00-000
Intended Population	0-N00-00-000
Format	0-0N0-00-000
Facilitating Focus	0-00N-00-000
Academic Focus	0-000-N0-000
Educational Level	0-000-0N-000
Source	0-000-00-L00
Number by Source	0-000-00-0NN

PROP 1972-1973

NCERD Specialty Areas		Initial Pool	Selections
A.	Theory and Knowledge Building for Organizational Change	9	1
B.	Planning, Management, and Evaluation Systems	15	10
C.	Instructional Personnel Development	15	1
D.	Curricular Programs	29	6
E.	Culturally-Targeted Curricular Programs	5	1
F.	Home-School Intervention in the Early Years	17	4
G.	Career Education	0	0
X.	Unspecified or Undetermined	0	0
Intended Population			
0	Not Applicable	0	0
1	Disadvantaged-General	1	2
2	Disadvantaged-Special Focus	13	2
3	Slow Learners	6	0
4	Nonreaders	0	0
5	Academically Talented	2	0
6	All Learners	27	6
7	Parents	0	0
8	Adults	38	12
9	Multiple Population	3	1
X	Other and/or Not Specified	0	0
Format and Special Approaches			
0	Not Applicable	0	0
1	Textbooks and/or Workbooks	2	0
2	Manuals and/or Guides	16	3
3	Programmed Materials	1	1
4	Movies, Videotapes, Slide Presentations, and/or Speaker-Phone Presentations	1	0
5	Three-Dimensional Models and/or other Materials	1	0
6	Computer Software	0	0
7	Games and/or Simulations	2	1
8	Tests and/or other Measurement Devices	9	5
9	Multiple Formats	54	13
X	Other	0	0

Facilitating Focus (Instrumentalities and Outcomes)

0	Not Applicable	0	0
1	Learning Environment	6	3
2	Learning Strategy	34	9
3	Teaching Methodology	24	5
4	Classroom Management	3	0
5	Organizational Efficiency	3	1
6	Administrative Techniques	8	4
7	Guidance and Counseling	4	0
8	(Not Assigned)	0	0
9	Multiple Focus	5	1
X	Other or Not Specified	3	0

Academic Focus (Subject-Matter Area)

0	Not Applicable	18	8
1	Language Arts and Literature (English)	18	2
2	Foreign Languages and Literature	2	0
3	Humanities, Fine and Performing Arts	1	1
4	Mathematics	6	2
5	Science	6	3
6	Behavioral and Social Studies	12	0
7	Business Education, Vocational-Technical, and other Career Preparation	1	1
8	(Not Assigned)	0	0
9	Multi-Disciplinary	14	3
X	Other or Not Specified	12	3

Educational Level

0	Not Applicable	2	0
1	Preschool or Nursery-Kindergarten	5	2
2	Primary Grades or Grades 1-3	9	5
3	Later Elementary or Grades 4-6	2	0
4	Junior (Middle) H.S. or Grades 6-9	1	0
5	Senior High School or Grades 10-12	3	2
6	Junior College	0	0
7	Senior College	5	0
8	Postbaccalaureate	27	7
9	Multi-Level	34	7
X	Other or Not Specified	2	0

List of Sources

A Appalachia Educational Laboratory, Inc.
P.O. Box 1348
Charleston, West Virginia 25325

B Center for Research and Development in Higher Education
University of California, Berkeley
2150 Shattuck Avenue
Berkeley, California 94720

C Central Midwestern Regional Educational Laboratory, Inc.
10646 St. Charles Rock Road
St. Ann, Missouri 63704

F Far West Laboratory for Educational Research and Development
1855 Folsom Street
San Francisco, California 94103

J Center for Social Organization of Schools
The Johns Hopkins University
3505 North Charles Street
Baltimore, Maryland 21218

K Southwestern Cooperative Educational Laboratory, Inc.
1404 San Mateo Boulevard, S.E.
Albuquerque, New Jexico 87108

M Mid-Continent Regional Educational Laboratory
104 East Independence Avenue
Kansas City, Missouri 64106

P Learning Research and Development Center
University of Pittsburgh
Pittsburgh, Pennsylvania 15213

R Research for Better Schools, Inc.
Suite 1700, 1700 Market Street
Philadelphia, Pennsylvania 19103

T Research and Development Center for Teacher Education
University of Texas at Austin
Education Annex 3.101
Austin, Texas 78712

List of Sources (Cont'd.)

U Center for the Study of Evaluation
University of California, Los Angeles
145 Moore Hall
Los Angeles, California 90024

W Wisconsin Research and Development Center for Cognitive Learning
1025 West Johnson Street
Madison, Wisconsin 53706

X Southwest Educational Development Laboratory
800 Brazos Street
Austin, Texas 78701

Z_a Educational Technology Center of Sterling Institute, Inc.
2600 Virginia Avenue, N. W.
Washington, D. C. 20037

Z_b Secondary School Mathematics Curriculum Improvement Study
Teachers College
Columbia University
New York, New York 10027

Z_c College of Fine Arts
Howard University
Washington, D. C. 20001

Z_d Department of Industrial Education
University of Maryland, College of Education
College Park Maryland 20742

Z_e The Creative Learning Group
145 Portland Street
Cambridge, Massachusetts 02139

Z_f Joint Council on Economic Education
1212 Avenue of the Americas
New York, New York 10036

Z_g Hawaii English Project
University of Hawaii
1750 Wist Place
Honolulu, Hawaii 96822

Z_h The Marianne Frostig Center of Educational Therapy
5981 Venice Boulevard
Los Angeles, California 90034

List of Sources (Cont'd.)

Z_i Sullivan Associates
Menlo Park
California

Z_j University of Georgia
107 Dudley Hall
Athens, Georgia 30601

Z_k Minnemast Program
720 Washington Avenue,S.E.
Minneapolis, Minnesota 55414

Z_l Lincoln Filene Center for Citizenship and Public Affairs
Tufts University
Medford, Massachusetts 02155

Z_m National Education Association
1201 Sixteenth Street, N.W.
Washington, D. C. 20036

Z_n George Washington University Medical Center
725 Twenty-first Street, N.W.
Washington, D. C. 20006

Z_o Biological Sciences Curriculum Study
University of Colorado
P.O. Box 930
Boulder, Colorado 80302

Z_p Palo Alto Medical Research Foundation
860 Bryant Street
Palo Alto, California 94301

Z_q Parsons State Hospital and Training Center
Bureau of Child Research
Parsons, Kansas 65357

Z_r Electrical Engineering Department
Stanford University
Stanford, California 94305

Z_s Lawrence Hall of Science
University of California
Berkeley, California 94720

Z_t Department of Pediatrics
School of Medicine
University of California, San Francisco
San Francisco, California 94122

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86	D-692-69-ZJ02
87	D-692-59-P03
88	D-692-12-P04
89	E-692-39-ZC01
92	E-693-99-ZL03
05	B-895-08-F09
06	B-891-09-F12
11	B-896-08-R05
12	B-896-C8-R06
14	B-892-X8-U07
19	C-893-98-T07
25	C-893-98-F06
26	C-893-X8-F08
28	C-896-98-F11
32	E-893-98-K01
33	E-893-19-C01
34	E-893-17-C02
38	E-893-18-K04
44	E-894-08-K06
55	A-893-67-F07
81	D-892-94-R02
16	C-992-59-M01
24	C-999-99-F04
41	E-992-12-ZI01
27	C-6X1-19-F10
46	E-8X3-18-C07
52	A-8XX-68-J03
53	A-8XX-6X-J04

Classification : Third Digit

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//*ROUTE PRINT PRINTER5
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  27    C-6X1-19-F10
  01    B-881-08-U01
  43    E-691-01-A01
  73    D-691-19-W05
  06    B-891-09-F12
  69    D-512-49-C06
  70    D-612-99-ZK01
  91    E-622-63-ZL02
  57    D-632-49-P01
  48    F-372-42-ZT01
  54    A-672-69-J05
  36    F-292-12-K02
  37    F-292-19-K03
  39    F-292-X1-X01
  47    F-292-92-C09
  62    D-292-62-X02
  76    D-292-19-ZM01
  84    D-292-59-ZS01
  90    E-292-12-X03
  93    E-292-91-X04
  74    D-392-11-W06
  77    D-392-59-ZD01
  61    D-592-49-ZB01
  60    D-692-67-ZA01
  63    D-692-75-ZD01
  64    D-692-X9-ZE01
  66    D-692-19-ZG01
  75    D-692-49-W07
  82    D-692-93-R03
  83    D-692-39-C08
  85    D-692-55-ZE02
  86    D-692-69-ZJ02
  87    D-692-59-P03
  88    D-692-12-P04
  89    E-692-39-ZC01
  14    B-892-X8-U07
  81    D-892-94-R02
  16    C-992-59-M01
  41    E-992-12-ZI01
  78    D-323-99-ZP01
  79    D-323-X0-Z001
  08    B-823-65-F14
  10    B-823-98-P04
  15    B-823-68-ZA02
  20    C-823-59-T08
  29    C-343-09-ZN01
  46    E-8X3-18-C07
  02    B-883-01-U04
  03    B-883-92-U05
  13    B-883-X9-U06
  18    C-883-X3-T04
  42    E-293-1X-K05
  65    D-593-69-ZF01
  68    D-693-69-ZJ01
  92    E-693-99-ZL03
  19    C-893-98-T07
  25    C-893-98-F06
  26    C-893-X8-F08
  32    E-893-98-K01
  33    E-893-19-C01
  34    E-893-17-C02
  38    E-893-18-K04
  55    A-893-67-E07
  35    E-224-18-C03
  21    C-824-X7-T09
  44    E-894-08-K06
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  05    B-895-08-F09
  04    B-826-08-F03
  07    B-826-X8-F13
  58    A-826-08-B04
  51    A-886-08-B01
  56    A-886-08-B02
  11    B-896-08-R05
  12    B-896-08-R06
  28    C-896-98-E11
  30    C-827-08-T12
  57    A-187-07-B03
  31    C-687-09-T13
  09    B-697-19-W04
  45    E-299-12-P03
  40    E-699-X9-ZH01
  71    D-599-49-W02
  72    D-699-X9-P02
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  52    A-8XX-68-J03
  53    A-8XX-6X-J04
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06      B-891-09-E12
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02      B-883-01-U04
44      E-894-08-K06
59      A-825-08-B05
05      B-895-08-E09
04      B-826-08-E03
58      A-826-08-B04
51      A-886-08-B01
56      A-896-08-B02
11      B-896-08-R05
12      B-896-08-R06
30      C-827-08-T12
80      D-25X-00-ZR01
57      A-187-07-B03
31      C-687-09-T13
27      C-6X1-19-E10
73      D-691-19-W05
36      E-292-12-K02
37      E-292-19-K03
76      D-292-19-ZM01
90      E-292-12-X03
74      D-392-11-W06
66      D-692-19-ZG01
88      D-692-12-P04
41      E-992-12-Z101
46      E-8X3-18-C07
42      E-293-1X-K05
33      E-893-19-C01
34      E-893-17-C02
38      E-893-18-K04
35      E-224-18-C03
09      B-697-19-W04
45      E-299-12-P03
83      D-692-39-C09
89      E-692-39-ZC01
69      D-512-49-C06
67      D-632-49-P01
48      E-372-42-ZT01
61      D-592-49-ZB01
75      D-692-49-W07
71      D-699-49-W02
84      D-292-59-ZS01
77      D-392-59-Z001
85      D-692-55-ZE02
87      D-692-59-P03
16      C-992-59-M01
20      C-823-59-T08
91      E-622-63-Z102
54      A-672-69-J05
62      D-292-62-X02
60      D-692-67-ZA01
86      D-692-69-ZJ02
08      B-823-65-E14
15      B-823-68-ZA02
65      D-693-69-ZE01
68      D-693-69-ZJ01
55      A-893-67-E07
52      A-8XX-68-J03
53      A-8XX-6X-J04
63      D-692-75-Z001
70      D-612-99-ZK01
47      E-292-92-C09
93      E-292-91-X04
82      D-692-93-R03
81      D-892-94-R02
78      D-323-99-ZP01
10      B-823-93-R04
03      B-883-92-U05
92      E-693-99-ZL03
19      C-893-98-T07
25      C-893-93-E06
32      E-893-98-K01
28      C-896-98-E11
24      C-999-99-E04
39      E-292-X1-X01
64      D-692-X9-ZE01
14      B-892-X8-U07
79      D-323-X0-ZQ01
13      B-883-X9-U06
18      C-883-X8-T04
26      C-893-X8-E08
21      C-824-X7-T09
23      C-825-X8-T11
07      B-826-X8-E13
40      E-699-X9-ZH01
72      D-699-X9-P02
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//*ROUTE PRINT PRINTER5

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79	D-323-X0-ZQ01
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02	B-883-01-U04
74	D-392-11-W06
39	F-292-X1-X01
93	E-292-91-X04
36	F-292-12-K02
90	F-292-12-X03
88	D-692-12-P04
41	F-992-12-ZT01
45	F-299-12-P03
48	F-372-42-ZT01
62	D-292-62-X02
47	F-292-92-C09
03	B-883-92-U05
91	E-622-63-ZL02
82	D-692-93-R03
81	D-892-94-R02
85	D-692-55-ZE02
08	B-823-65-F14
63	D-692-75-Z001
57	A-187-07-B03
34	F-893-17-C02
60	D-692-67-ZA01
55	A-893-67-F07
21	C-824-X7-T09
22	C-821-08-T10
01	B-881-08-U01
44	F-894-08-K06
59	A-825-08-B05
05	B-895-08-F09
04	B-826-08-F03
58	A-826-08-B04
51	A-886-08-B01
56	A-886-08-B02
11	B-896-08-R05
12	B-896-08-R06
30	C-827-08-T12
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38	F-893-18-K04
35	F-224-18-C03
15	B-323-68-ZA02
52	A-8XX-68-J03
14	B-892-X8-U07
18	C-883-X8-T04
26	C-893-X8-F08
23	C-825-X9-T11
07	B-826-X8-F13
10	B-323-98-R04
19	C-393-98-T07
25	C-893-99-F06
32	F-893-98-K01
28	C-896-98-F11
06	B-891-09-F12
29	C-343-09-ZN01
31	C-687-09-T13

27	C-6X1-19-F10
73	D-691-19-W05
37	F-292-19-K03
76	D-292-19-ZM01
66	D-692-19-ZG01
33	F-893-19-C01
09	B-697-19-W04
83	D-692-39-C08
89	E-692-39-ZC01
69	D-512-49-C06
67	D-632-49-P01
61	D-592-49-ZB01
75	D-692-49-W07
71	D-699-49-W02
84	D-292-59-ZS01
77	D-392-59-Z001
87	D-692-59-P03
16	C-992-59-M01
20	C-823-59-T08
54	A-672-69-J05
86	D-692-69-ZJ02
65	D-693-69-ZF01
68	D-693-69-ZJ01
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70	D-612-99-ZK01
78	D-323-99-ZP01
92	E-693-99-ZL03
24	C-999-99-F04
42	F-293-1X-K05
53	A-3XX-6X-J04

//

APPENDIX D

ETS September 25, 1972

Guidelines for Preparing Product Evaluation Precis

General Note:

The design of the four pages of the forms is intended to give you room to write and revise. The space allowed for the various headings is arbitrary; you need not fill it all. Be as concise as possible, without sacrificing completeness of important information. The review panel will have to deal with more than 100 precis at a two-day meeting and must be able to make comparisons readily.

In preparing each precis, please write it in such a way that a summary description suitable for inclusion in the final project report can be extracted from it. The precis as a whole should be written in a way that will communicate effectively to the panel judges, while the summary statements should be written in language comprehensible to the lay reader. Please refer to the report entitled "Products Entered into the Pool for the Dissemination Program of NCEC," submitted by ETS in June of 1971 for a complete record of product summaries. A sample precis from last year's PEP project and a sample summary description are attached for ready reference.

Detailed instructions for filling out the precis form follow:

Page 1

Accession Number
Project Identification
Classification
Principal Investigator

These will be filled in before you receive the dossier

Brief Description of Product

Most of this should come from the descriptive information supplied by the developer, but it may need some supplementation.

The description should include the following:

What the product is

What the product does - its purpose(s) and objective(s) and major characteristics (both developer-intended and incidental); the benefits claimed; and if possible, the way(s) in which the product differs from other products or programs already available.

Whom the product is designed to serve - the group(s) for which it was developed and any limitations (e.g., "but not suitable for poor readers" or "useful only for high-ability, college-bound students). Groups with which the product may be used but for which it was not originally developed should be specified.

Page 2 Verification-Evaluation/Validation

This is the most important part of the precis. It requires the most rigorous attention and may eventually require the greatest amount of supplemental information. This section should be primarily descriptive, but do not skimp on detail about data, analysis, and interpretation.

Promotional brochures should be treated with caution. Hard data from research reports are required. The kinds of information needed include such things as:

Descriptions of field tests and other evaluations

The study designs used

The tests used

The data collected

The analyses completed

The interpretations made

The findings reported

The significance attributed to the findings

Indicate what reports on validation are available-either already in the dossier or requested from the principal investigator. Insofar as feasible deal with at least these points:

1. The objectives of the validation study - the criteria, formative or summative, employed and the use to be made of the results.
2. The study design and the results. Look for results in terms of the developer's criteria and objectives. Look also for side effects not anticipated.
3. Adequacy. Comment on the scope and size of the sample(s) used; the scope of field testing, the efficacy of the findings, and the conclusion(s).
4. Types of tests and measurements used. Include test sites, target populations, and the relevance of objectives of the evaluation to the specified objectives of the product.
5. Replicability. Comment on the probability of being able to repeat the developer's validation with similar results.

Page 3 Implementation Implications

Major Requirements for Implementation

Fill in the specific implementation requirements under appropriate headings - if there are none, simply write none.

Personnel Required

Indicate the number needed, special training required (pre-service and in-service), availability of special training, and the cost of training and/or consultants.

Material and Facilities

Include both required and optional items. Comment on the availability of the materials (e.g., are materials available in unlimited quantities or are only sample materials available) and give the source from which they can be obtained.

Itemize the costs and give totals for a first-time installation and for an ongoing program (on a per pupil basis, if possible). Costs to be considered include those for basic materials, enrichment materials, staff (professional, paraprofessional, technical, and clerical), pre-service and in-service training, consultants, repairs and replacements, space, and other special needs. Non-dollar costs, such as those produced by system disruption, should also be considered.

Administrative Considerations

Describe the organizational implications of adopting the product, including such things as scheduling and classroom space. Specify the conditions required for installation, both on a try-out basis and for adoption. In what situations may the product be employed, e.g., with individuals only, with an entire class, department, school, or school system?

Other Limitations or Factors

This section might include comments on possible disruption of the existing system and possible opposition by students, staff, or community. Anything that would or should influence a decision to adopt the product that is not already covered under other headings should be specified here. Try to make a careful distinction between objective data available and your own opinion.

Page 4 Dissemination Efforts by the Developer or Publisher

Include both existing dissemination efforts and those planned for the future.

A variety of inputs will be necessary here. Make a careful analysis of what is stated in publications on the product, (promotional brochures, journal articles, dissertations, reports) and make inquiries of those involved, both the principal investigator and the publisher, if one exists. Make some judgment as to the impact of the dissemination efforts already underway and the probable impact of efforts planned for the future. This is necessary in order to determine whether the product needs and can benefit from NIE support.

Description of Obstacles to Implementation and Suggested Dissemination Strategies

Be as complete as you can in citing possible problems, such as community opposition and the need for released time, in implementation and recommend strategies for future dissemination. The material you supply will probably be revised or supplemented after discussion by the advisory panel.

Product Precis

Accession No. _____

	Date	Initial
1st Draft	_____	_____
Revision 1	_____	_____
Revision 2	_____	_____
Revision 3	_____	_____

Product Identification

OE Number _____

Title _____

_____

Principal Investigator: _____

Address _____

_____

_____

Product Classification

Code _____

Major Emphasis _____

Target Population _____

Age level _____

Brief Description of Product

Evaluation/Validation

Accession No. _____ Product Precis

Implementation Implications

Major requirement for implementation

Personnel requirements

Materials and Facilities

Other Administrative Considerations

Other Factors or limitations

Product Dissemination Efforts

Existing

Planned

Description of Obstacles to Implementation and Suggested Dissemination Strategies

PROP PROJECT DOSSIER
1972

Title _____

Accession# _____ Classification# _____

Product logged on _____ by _____

Team assigned _____

_____

ERIC Search result on _____, _____

_____

CEDAR Search result on _____, _____

_____

1971 Product reviewed: ☐ Yes No ☐

Notes:

_____

As step is completed, date and initial.

Check NA only if statement is not applicable to product.

From _____

Principal Investigator _____

NA
☐ Material requested from Principal Investigator on _____

_____ by _____

☐ Material received on _____ by _____

☐ Product retained in 1972 pool: ☐ Yes No ☐ by _____

☐ Precis drafted on _____ by _____

☐ Initial precis review on _____ by _____

☐ Second precis review on _____ by _____

☐ Precis approved on _____ by _____

☐ Selected by Panel for extended study: ☐ Yes No ☐

☐ Feedback requested from Princ. Inves. on _____ by _____

☐ Feedback received on _____ by _____

☐ Extended analysis done on _____ by _____

☐ Site Visit made on _____ by _____

☐ Final analysis reviewed on _____ by _____

_____

☐ Product description completed on _____ by _____

☐ Product description edited on _____ by _____

☐ Product description sent to NCEC on _____ by _____

☐ Dossier ready for ERIC - TM on _____ by _____

APPENDIX E

APPENDIX F

PROP Action Form
1972-1973

Product _____ _____ _____

Accession number_____Classification number_____

Team assigned_____&_____

Initial review by_____on_____

Second review by_____on_____

Product retained in 1972 Pool: Yes___ No___ on_____

NA
__ ETS precis completed on_____by_____

__ Nominated for extended study on_____by_____

__ Selected by Panel for extended study: Yes___ No___

__ Extended information collected on_____by_____

__ Extended analysis completed on_____by_____

__ Extended analysis received on_____by_____

__ Product description completed on_____by_____

__ Product description edited on_____by_____

Notes:

APPENDIX G

EDUCATIONAL TESTING SERVICE PRINCETON, N.J. 08540

Area Code 609
921 - 9000
CABLE-EDUCTESTSVC

Test Development Division

Memorandum For: DEVELOPERS OF PRODUCTS IN
THE 1972-73 PROP POOL

Subject: Descriptive Precis for Use in
Panel Review of Products (PROP)

From: Wesley W. Walton

As you perhaps know, the key document available to the Panel when the Panel Review of Products occurs is a precis developed by the ETS professional staff (serving as product reviewers) on the basis of their study of materials made available by developers and others concerning the individual products in our Pool. The precis of a product for which you are the principal investigator is enclosed.

It may well be that the product reviewer has successfully captured the essence of the current situation regarding this product development, and your concurrence would be a most welcome response. We are even more interested, however, to learn of information the reviewer might have missed or interpretations that he or she may have made to which you would take exception.

The Panel will meet for the first of two reviews on January 10-12. Will you please return well in advance of that period any comments you might wish to make concerning the precis, and we shall bring those comments to the attention of the Panel.

In any case, a reply as soon as possible will be appreciated very much indeed.

WWW/cw